

This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a **Minor, Municipal and Industrial** permit. The discharge results from the operation of a 0.0015 MGD wastewater treatment plant and a concrete acid-washing facility. This permit action consists of updating the proposed effluent limits to reflect the Virginia WQS (effective February 1, 2010) and updating permit language, as applicable. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260-00 et seq.

1. Facility Name and Mailing Address: Smith-Midland Corporation
P.O. Box 300
Midland, VA 22728
Facility Location: 5119 Catlett Road
Midland, VA 22728
Facility Contact Name: Wesley Taylor
SIC Code: 4952 WWTP/3272
Concrete Products, Except Block & Brick
County: Fauquier
Telephone Number: 540-439-3266
2. Permit No.: VA0084298
Expiration Date: 4/5/2011
Other VPDES Permits: VAG110298 (Concrete GP)
Other Permits: Air Permit Registration No. 40486; Waste EPA ID VAR000502880; UST Registration ID 3038943
E2/E3/E4 Status: N/A
3. Owner Name: Smith-Midland Corporation
Owner Contact / Title: Wesley Taylor
Telephone Number: 540-439-3266
4. Application Complete Date: 12/10/2010
Permit Drafted By: Anna Westernik
Date Drafted: 1/14/2011
Draft Permit Reviewed By: Alison Thompson
Date Reviewed: 1/27/2011
Draft Permit Reviewed By: Bryant Thomas
Date Reviewed: 2/17/2011
Public Comment Period: Start Date: 3/31/2011
End Date: 4/29/2011
5. Receiving Waters Information: See **Attachment 1** for the flow frequency information and 401 Certification of Germantown Lake
Receiving Stream Name: Licking Run
Stream Code: 1aLIL
Drainage Area at Outfall: 16.7 square miles
River Mile: Outfall 001 – 5.58
Outfall 002 – 5.53
Stream Basin: Potomac River
Subbasin: Potomac River
Section: 7a
Stream Class: III
Special Standards: g
Waterbody ID: VAN-A17R
7Q10 Low Flow: 0.004622 MGD
7Q10 High Flow (Dec-Apr): 0.59 MGD
1Q10 Low Flow: 0.002311 MGD
1Q10 High Flow (Dec-Apr): 0.44 MGD
Harmonic Mean: Undefined
30Q5 Flow: 0.075 MGD
303(d) Listed: Yes
30Q10 Flow: 0.027 MGD
TMDL Approved: Yes
Date TMDL Approved: 7/6/2004
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

<input checked="" type="checkbox"/> State Water Control Law <input checked="" type="checkbox"/> Clean Water Act <input checked="" type="checkbox"/> VPDES Permit Regulation <input checked="" type="checkbox"/> EPA NPDES Regulation	<input type="checkbox"/> EPA Guidelines <input checked="" type="checkbox"/> Water Quality Standards <input checked="" type="checkbox"/> Other (Occoquan Policy)
---	---
7. Licensed Operator Requirements: Class III
8. Reliability Class: Class I

9. Permit Characterization:

<input checked="" type="checkbox"/> Private	<input checked="" type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input type="checkbox"/> Toxics Monitoring Program Required	<input type="checkbox"/> Interim Limits in Permit
<input type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input checked="" type="checkbox"/> TMDL		

10. Wastewater Sources and Treatment Description:Outfall 001 (Sewage Treatment Plant)

Wastewater generated from the operations at Smith-Midland enters two septic tanks (one at the engineering building and one at the office building) and then flows to an aerated equalization tank. Secondary treatment takes place in two 1000-gpd Multi-Flow package plants operating in parallel. Disinfection occurs after secondary treatment via a tablet chlorinator and a chlorine contact tank. Post-aeration occurs directly after chlorination. A tablet feeder is used for dechlorination. Sampling of Outfall 001 occurs directly after dechlorination.

See **Attachment 2** (schematic of sewage treatment plant).

Outfall 002 (Concrete Acid Washing Process)

Washing and acid etching of the finished concrete product is conducted on a sloped concrete pad in an outdoor area of the Smith-Midland property behind the two concrete manufacturing buildings (southwestern portion of the property). The concrete product is either washed with water only, acid etched and washed with hot water, or sandblasted. High-pressure washing removes the superficial layer of cement and sand. The concrete is sprayed with hydrochloric acid dispensed through an injection pump to further etch the surface. Some forms are painted with rollers. All paint products are disposed of as solid waste. Nothing from the painting process is discharged. Effluent created from these washing operations is discharged to a series of three concrete vaults for treatment.

The first concrete vault acts as a settling basin for concrete fines. The second vault contains a pH probe and an automatic chemical feed pump to add caustic soda (HCO_3) to neutralize the discharge. The third vault will act as a clarification basin to collect any remaining solids. The third vault discharges via Outfall 002 to Licking Run approximately 0.05 miles downstream of Outfall 001.

See **Attachment 3** (schematic of concrete acid washing process)

See **Attachment 4** for the NPDES Permit Rating Worksheet.

TABLE 1 OUTFALL DESCRIPTION				
Outfall Number	Discharge Sources	Treatment	Design Flow or Max 30-day Flow	Latitude/Longitude
001	Municipal Discharge from a Sewage Treatment Plant	See Item 10 above.	0.0015 MGD	38° 36' 29" N 77° 42' 47" W
002	Industrial Wastewater Discharge from a concrete acid washing process	See Item 10 above.	0.002 MGD	38° 36' 27.4" N 77° 42' 44.7" W
See Attachment 5 for the Midland topographic map (195C).				

11. Sludge Treatment and Disposal Methods:Outfall 001

Sludge is generated in the Multi-Flo units. Approximately 1,000 gallons is removed each quarter from the units and transported to the Massaponax STP (VA0025658) for further treatment and management. The septic tanks are pumped every two to three years.

Outfall 002

Solids generated by the acid-washing process are removed from the vaults and disposed of in an approved location (e.g., a landfill).

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge:

DEQ Monitoring Station 1aLIL001.43 is located at River Mile 1.43 of Licking Run (see Section 15 of this fact sheet). Table 2 below lists general permits located within Waterbody VAN-A17R.

TABLE 2 VPDES GENERAL PERMITS IN WATERBODY VAN A17R		
Permit Number	Facility Name	Receiving Stream
Single Family Homes		
VAG406188	Cruikshank Donald Residence	Mill Run, UT
VAG406437	Coates Moses Residence	Licking Run, UT
VAG406192	Swanson Neil and Linda - Residence	Mill Run, UT
VAG406102	Winston Melvin Residence	Cedar Run, UT
VAG406190	LaPrade Page Residence	Mill Run, UT
Storm Water Industrial		
VAR051086	Quarles Petroleum - Warrenton Bulk Plant Truck Stop	Licking Run, UT
VAR051470	Fauquier County Solid Waste Management Facility	Turkey Run
VAR051017	Warrenton Fauquier Airport	Licking Run
Concrete		
VAG110234	M.E. Concrete Products	Licking Run, UT
Non-Metallic Mineral Mining		
VAG840098	Vulcan Construction Materials - Sanders	Licking Run, UT
Petroleum		
VAG830036	Quarles Petroleum - Warrenton Bulk Plant Truck Stop	Licking Run

13. Material Storage:Materials Stored at Outfall 001:

The materials listed below are stored in the maintenance building.

1. One 5-gallon bucket of chlorine tablets.
2. One 5-gallon bucket of sodium bisulfite tablets.

Materials Stored at Outfall 002:

1. Totes of Hydrochloric Acid BE20.
2. Totes of Sodium Hydroxide.

These chemicals are delivered in 275 gal totes and stored on the pad. The sodium hydroxide is stored in a heated shed on the pad. Additional totes of hydrochloric acid for panel washing and sodium hydroxide are stored in a containment building near the pad.

14. Site Inspection: Performed by Anna Westernik and Doug Frasier on January 7, 2011 (see **Attachment 6**).

15. Receiving Stream Water Quality and Water Quality Standards:**a. Ambient Water Quality Data**

Both Outfalls 001 and 002 discharge to Licking Run within Waterbody VAN-A17R/PL37. DEQ water quality monitoring at ambient monitoring station 1aLIL001.43, located approximately 3.9 miles downstream of Outfall 002 at the Route 616 bridge crossing, finds an *E. coli* impairment. Aquatic life and wildlife uses are considered fully supporting. Fish consumption use was not assessed (see **Attachment 7**, Planning Statement).

b. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Licking Run, is located within Section 7a of the Potomac River Basin and is a Class III water.

Class III waters must achieve a dissolved oxygen (D.O.) level of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, and a temperature that does not exceed 32°C at all times; and maintain a pH of 6.0-9.0 standard units (S.U.).

Ammonia:

Staff has re-evaluated the receiving stream ambient monitoring data from downstream DEQ Monitoring Station 1aLIL001.43 for the period of November 2000 through May 2008 for pH and temperature and has determined that the ammonia 90th percentile pH value is 7.8 S.U. The 90th percentile pH of the effluent derived from December 2009 through December 2010 discharge monitoring reports is 7.9 S.U. (See **Attachment 8**).

Bacteria:

The Virginia Water Quality Standards (9VAC25-260-170.A.) establishes the following criteria to protect primary contact recreational uses:

E. coli per 100 mL of water shall not exceed the following:

	Monthly Geometric Mean ¹
Freshwater <i>E. coli</i> (N/100 mL)	126

¹Four or more samples taken during any calendar month

Attachment 9 details other water quality criteria applicable to the receiving stream for Outfalls 001 and Outfalls 001 and 002 combined (see Section 17.b. 2) of this fact sheet for an explanation of why and how the flow from the two outfalls was combined to determine permit limits for total residual chlorine or TRC.)

c. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Licking Run, is located within Section 7a of the Potomac River Basin. This section has been designated with a special standard of g.

Special Standard "g" refers to the Occoquan Watershed policy (9VAC25-410). The regulation sets stringent treatment and discharge requirements in order to improve and protect water quality, particularly since the waters are an important water supply for Northern Virginia. The regulation generally prohibits new STPs and only allows minor industrial discharges.

d. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on December 2, 2010 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Dwarf Wedgemussel, Upland Sandpiper, Loggerhead Shrike, Henslow's Sparrow, Bald Eagle, and Migrant Loggerhead Shrike. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore, protect the threatened and endangered species found near the discharge.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

Sampling from monitoring station 1ALIL001.43 downstream of the discharge shows that with the exception of fecal coliform bacteria, measured parameters are above the Virginia Water Quality Standards. Per DEQ guidance, impairment due to fecal coliform is not used to make a tier determination. Thus, Licking Run in the vicinity of the discharge from Outfalls 001 and 002 is considered to be a Tier 2 water. No significant degradation to the existing water quality will be allowed. No significant lowering of water quality is to occur when permit limits are based on the following: The dissolved oxygen in the receiving stream is not lowered more than 0.2 mg/L from the existing levels;

- The pH of the receiving stream is maintained within the range 6.0-9.0 S.U.;
- There is compliance with all temperature criteria applicable to the receiving stream;
- No more than 25% of the unused assimilative capacity is allocated for toxic criteria established for the protection of aquatic life; and
- No more than 10% of the unused assimilative capacity is allocated for criteria for the protection of human health.

The antidegradation policy also prohibits the expansion of mixing zones to Tier 2 waters unless the requirements of 9VAC25-260-30.A.2 are met. The draft permit is not proposing an expansion of the existing mixing zone.

Although the discharge from this facility is to a Tier 2 water as described above, the sewage treatment plant was constructed in 1991 (prior to the March 30, 1992 adoption of the Virginia Water Quality Standards by the State Water Control Board). Thus, the limits for ammonia and TRC in this permit reissuance are based on existing use protection or Tier 1 wasteload allocations. If this sewage treatment plant were to expand or were to be replaced, limits would be calculated based on the Tier 2 water quality described above considering the baseline established in this permitting action..

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. The WLAs values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. In the case of ammonia evaluations, limits are needed if the 97th percentile of the thirty-day average effluent concentration values is greater than the chronic WLA. Effluent limitations are the calculated on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

The discharge from this facility is considered to be intermittent in nature. Therefore, only impacts that affect the acute water criteria will be evaluated and only acute wasteload allocations need to be determined.

a. Effluent Screening

Ammonia and chlorine can be reasonably expected to be in the effluent from a sewage treatment plant. For purposes of establishing ammonia and chlorine effluent limitations, it is assumed that one data value exists. The data values used to calculate limits for ammonia and total residual chlorine are 9 mg/L and 0.2 mg/L, respectively.

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where: WLA = Wasteload allocation
 C_o = In-stream water quality criteria
 Q_e = Design flow
 Q_s = Critical receiving stream flow
 (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
 f = Decimal fraction of critical flow
 C_s = Mean background concentration of parameter in the receiving stream.

The Water Quality Standards contain two distinct mixing zone requirements. The first requirement is general in nature and requires the "use of mixing zone concepts in evaluating permit limits for acute and chronic standards in 9VAC25-260-140.B". The second requirement is specific and establishes special restrictions for regulatory mixing zones "established by the Board".

The Department of Environmental Quality uses a simplified mixing model to estimate the amount of mixing of a discharge with the receiving stream within specified acute and chronic exposure periods. The simplified model contains the following assumptions and approximations:

- The effluent enters the stream from the bank, either via a pipe, channel or ditch.
- The effluent velocity isn't significantly greater (no more than 1 - 2 ft/sec greater) than the stream velocity.
- The receiving stream is much wider than its depth (width at least ten times the depth).
- Diffusive mixing in the longitudinal direction (lengthwise) is insignificant compared with advective transport (flow).
- Complete vertical mixing occurs instantaneously at the discharge point. This is assumed since the stream depth is much smaller than the stream width.
- Lateral mixing (across the width) is a linear function of distance downstream.
- The effluent is neutrally buoyant (e.g. the effluent discharge temperature and salinity are not significantly different from the stream's ambient temperature and salinity).
- Complete mix is determined as the point downstream where the variation in concentration is 20% or less across the width and depth of the stream.
- The velocity of passing and drifting organisms is assumed equal to the stream velocity.

If it is suitably demonstrated that a reasonable potential for lethality or chronic impacts within the physical mixing area doesn't exist, then the basic complete mix equation, with 100% of the applicable stream flow, is appropriate. If the mixing analysis determines there is a potential for lethality or chronic impacts within the physical mixing area, then the proportion of stream flow that has mixed with the effluent over the allowed exposure time is used in the basic complete mix equation. As such, the wasteload allocation equation is modified to account for the decimal fraction of critical flow (f).

Staff derived wasteload allocations where parameters are reasonably expected to be present in an effluent (e.g., total residual chlorine where chlorine is used as a means of disinfection) and where effluent data indicate the pollutant is present in the discharge above quantifiable levels. With regard to the Outfall 001 discharge, ammonia as N is likely present since this is a WWTP treating sewage and total residual chlorine may be present since chlorine is used for disinfection. Total residual chlorine may be present at Outfall 002 due to the use of hydrochloric acid in the acid-washing process. As such, **Attachment 9** details the mixing analysis results and WLA derivations for these pollutants.

b. Effluent Limitations – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D, requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1). Ammonia as N:

Derivation of criteria for ammonia in the Virginia Water Quality Standards (9 VAC 25-260) has not changed since February 12, 2004. Recalculation of the ammonia limits shows that no limits for ammonia are needed (see **Attachment 10**).

2). Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge from Outfall 001. Since hydrochloric acid is used in the acid-washing process and the water supply is occasionally chlorinated, chlorine is also present in the discharge from Outfall 002.

Staff calculated WLAs for TRC using current critical flows and the mixing allowance. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated WLAs to derive limits. Since a reasonable potential exists for both Outfall 001 and 002 to discharge simultaneously, a probability exists for violating the antidegradation baseline if each outfall were assigned a TRC limit based on flow from that outfall alone. To ensure adequate protection of the receiving stream, the flows from each outfall (average flow of Outfall 001 and Maximum 30-Day Value of Outfall 002) were combined to determine the TRC WLAs. A monthly average of 0.018 mg/L and a weekly average limit of 0.015 mg/L is proposed for each outfall (see **Attachment 10**).

c. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to dissolved oxygen (DO), biochemical oxygen demand-5 day (BOD₅), total suspended solids (TSS), and pH limitations are proposed.

- 1) DO and BOD₅ limits are based on the stream modeling conducted in July 1990 (**Attachment 11**) and are set to ensure that the receiving stream DO does not decrease more than 0.2 mg/L to meet the requirements of the antidegradation policy.

It is staff's practice to equate the TSS limits with the BOD₅ limits. TSS limits are established to mirror BOD₅ limits since the two pollutants are closely related in terms of treatment of domestic sewage.

- 2) pH limitations are set at the water quality criteria.
- 3) *E. coli* limitations are in accordance with the Virginia Water Quality Standards (9 VAC25-260-170) and comply with the TMDL approved by EPA on July 6, 2004.

d. Effluent Limitations and Monitoring, Outfall 002 – Conventional and Non-Conventional Pollutants

No changes to the TSS, Chemical Oxygen Demand (COD), DO, temperature, and total petroleum hydrocarbon (TPH) limits are proposed. The limits for TSS, COD, pH, and TPH mirror those in the ready-mix concrete general permit.

- 1) The monthly average TSS limit of 30 mg/L and the maximum limit of 60 mg/L are required to limit adverse effects to the receiving stream from concrete washing.
- 2) COD monitoring is being required to determine the oxygen-consuming capacity of the effluent.
- 3) pH limits are required to limit adverse effects to the receiving stream from hydrochloric acid or caustic soda. The limits in this permit are in accordance with the Virginia Water Quality Standards (9 VAC 25-260-50).
- 4) DO limits are required due to the potential that exists at this facility for the discharge of chlorine and therefore, the installation of dechlorination. Sulfur dioxide used in the dechlorination process may exert an oxygen demand and hence, decrease the DO in the receiving stream. The minimum DO limit of 6.0 mg/L for Outfall 002 coincides with the minimum DO limit for Outfall 001.
- 5) Temperature requirements are necessary due to the potential for heating of water after acid washing. The maximum temperature requirement corresponds with the Virginia Water Quality Standards for non-tidal water in the coastal and piedmont zones (9 VAC 25-260-50).
- 6) TPH monitoring is required because the concrete forms are lubricated prior to use.

e. Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following table. Limits were established for flow, BOD₅, TSS, pH, DO, TRC, and *E. coli* at Outfall 001. Limits were established for TSS, COD, pH, TRC, DO, temperature, and TPH at Outfall 002.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and a conversion factor of 3.785.

Sample type and frequency are in accordance with the recommendations in the VPDES Permit Manual and best professional judgment.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19.a Effluent Limitations/Monitoring Requirements:

Design flow is 0.015 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		<u>Monthly Average</u>		<u>Weekly Average</u>		<u>Minimum</u>	<u>Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>
Flow (MGD)	N/A	NL		N/A		N/A	NL	1/D	Estimate
pH (S.U.)	1	N/A		N/A		6.0	9.0	1/D	Grab
BOD ₅	1, 2	25 mg/L	0.14 kg/day	38 mg/L	0.21 kg/day	N/A	N/A	1/M	Grab
Total Suspended Solids (TSS)	3	25 mg/L	0.14 kg/day	38 mg/L	0.21 kg/day	N/A	N/A	1/M	Grab
DO (mg/L)	1	N/A		N/A		6.0	N/A	1/D	Grab
<i>E. coli</i> (Geometric Mean) ^a	1	126 n/100mls		N/A		N/A	N/A	1/W ^b	Grab
Total Residual Chlorine (after contact tank) (mg/L)	4	N/A		N/A		1.0	N/A	1/D	Grab
Total Residual Chlorine (after dechlorination) (mg/L)	1	0.018		0.015		N/A	N/A	1/D	Grab

The basis for the limitations codes are:

1. Virginia Water Quality Standards
2. Stream Model – **Attachment 11**
3. Best Professional Judgment
4. DEQ Disinfection Guidance

MGD = Million gallons per day.

NL = No limit; monitor and report.

N/A = Not applicable.

S.U. = Standard units.

1/D = Once every day.

1/M = Once every month.

1/W = Once every week.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

a. The permittee shall sample *E. coli* between 10:00 a.m. and 4:00 p.m. All results shall be reported as the geometric mean.b. The permittee shall sample and submit *E. coli* results at the frequency of once every week for six (6) months.

If all reported results for *E. coli* do not exceed 126 n/100mL, reported as the geometric mean, the permittee may submit a written request to DEQ-NRO for a reduction in the sampling frequency to once per quarter.

Upon approval, the permittee shall collect four (4) samples during one month within each quarterly monitoring period as defined below. The results shall be reported as the geometric mean.

The quarterly monitoring periods shall be January through March, April through June, July through September and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

Should any of the quarterly monitoring results for *E. coli* exceed 126 n/100mL, reported as the geometric mean, the monitoring frequency shall revert to once per week for the remainder of the permit term.

VPDES PERMIT PROGRAM FACT SHEET

VA0084298
PAGE 10 of 15

19.b Effluent Limitations/Monitoring Requirements:

Maximum Flow of this Industrial Facility is 0.0021 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	N/A	N/A	NL	1/M	Estimate
Total Suspended Solids (mg/L)	1	30	N/A	N/A	60	1/W	Grab
COD	1	N/A	N/A	N/A	NL	1/M	Grab
pH (S.U.)	2	N/A	N/A	6.0	9.0	2/D ^a	Grab
Total Residual Chlorine (mg/L)	2	0.018	0.015	N/A	N/A	1/D	Grab
Dissolved Oxygen (mg/L)	1	N/A	N/A	6.0	N/A	1/M	Grab
Temperature (°C)	2	N/A	N/A	N/A	32 ^b	1/M	IS
TPH (mg/L) ^c	1	N/A	N/A	N/A	15	1/M	Grab

The basis for the limitations codes are:

1. Best Professional Judgment
2. Water Quality Standards

MGD = Million gallons per day.

NL = No limit, monitor and report.

N/A = Not applicable.

S.U. = Standard units.

IS = Immersion stabilization.

1/M = Once every month.

1/W = Once every week.

2/D = Twice per day.

1/D = Once every day.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

- a. Sampling shall be conducted twice per day at four hour intervals.
- b. The maximum temperature of the discharge from Outfall 002 shall not exceed 32° C. The rise in natural temperature shall not exceed 3° C (9 VAC 25-260-60).
- c. Total Petroleum Hydrocarbons (TPH) is the sum of individual gasoline range organics and diesel range organics, or TPH-GRO and TPH-DRO, to be measured by EPA SW 846 Method 8015C (2007) for gasoline and diesel range organics, or by EPA SW 846 Methods 8260B and 8270D. If the combination of Methods 8260B and 8270D is used, the lab must report the total of gasoline range organics, diesel range organics and polynuclear aromatic hydrocarbons.

20. Other Permit Requirements:

Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

These additional chlorine requirements are necessary per the Sewage Collection and Treatment Regulations at 9VAC25-70 and by the Water Quality Standards at 9VAC25-260-170. Minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more than 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be < 1.0 mg/L with any TRC < 0.6 mg/L considered a system failure. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

- a. 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. The facility is a PVOTW.
- b. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. On or before August 1, 2011, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit. Outfall 001 meter readings and O&M
- c. CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- d. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200.C., and Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class III operator.
- e. Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet a Reliability Class of I based on the requirements of the Occoquan Policy (9VAC25-410).
- f. Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- g. Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2., and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.
- h. Connection to Public Sewerage Facilities. The permittee must eliminate the discharge from the facility by connection to public sewer within 180 days of the date that the public sewerage facilities become available.

- i. In-stream Monitoring. The State Water Control Law at §62.1-44.21 authorizes the State Water Control Board to request information needed to determine the discharge's impact on State Waters. To determine if the proper dissolved oxygen level is being maintained in the receiving stream, in-stream sampling for dissolved oxygen shall be conducted during the months of May to November at the locations shown in the Instream Monitoring Plan dated June 27, 2006 or a revised plan approved by DEQ-NRO for the entire duration of this permit. If the results of in-stream monitoring show that the discharge from Outfall 001 causes the receiving stream dissolved oxygen to be less than 5 mg/L or decrease by 0.2 mg/L or more, this permit shall be reopened to allow dissolved oxygen modeling to be conducted and new BOD and dissolved oxygen limits assigned. Results of the monitoring shall be submitted with the Discharge Monitoring Report by the 10th day of each month.

In-stream monitoring for temperature is being required to assess the thermal impact of the discharge to the receiving stream. In-stream monitoring shall be conducted monthly in the vicinity of Outfall 002 in accordance with the approved Temperature Monitoring Plan outlined in the current O&M Manual. Results of the monitoring shall be submitted with the Discharge Monitoring Report by the 10th day of each month.

- j. Notification Levels The permittee shall notify the Department as soon as they know or have reason to believe:
- 1). That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - a) One hundred micrograms per liter;
 - b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
 - c) Five times the maximum concentration value reported for that pollutant in the permit application; or
 - d) The level established by the Board.
 - 2). That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - a) Five hundred micrograms per liter;
 - b) One milligram per liter for antimony;
 - c) Ten times the maximum concentration value reported for that pollutant in the permit application; or
 - d) The level established by the Board.
- k. Materials Handling/Storage. 9VAC25-31-50.A. prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.
- l. Paint Waste Disposal Some concrete product is currently painted on site using rollers. All product is disposed of as solid waste. The permit shall be reopened to incorporate additional monitoring and and/or limits if it is found that the paint waste disposal procedure has changed (e.g., washing rollers and discharging waste to the sewage treatment plant).
- m. Emergency Planning and Community Right-to-Know (EPCRA) Hydrochloric acid is regulated under EPCRA and is designated as a hazardous substance under the Clean Water Act. Releases of more than one pound of hydrochloric acid must be reported annually to DEQ-NRO and entered into the national Toxic Release Inventory (TRI).
- n. Groundwater Monitoring Acid-washing may contaminate local groundwater. To ensure protection of the groundwater standards (9 VAC 25-280-10 et seq.) and the water supplies in the surrounding area, groundwater monitoring must be conducted semi-annually at the acid-washing area for the following parameters: static water level (ft.), total dissolved solids (mg/L), total organic carbon (mg/L), pH (S.U.), and specific conductance (µhos/cm).

The static water level shall be measured prior to bailing the well water for sampling. At least three volumes of groundwater shall be withdrawn immediately before sampling each well.

Monitoring results must be submitted with the Discharge Monitoring Report (DMR) on the 10th of the month following sample collection or on January 10 and July 10.

- o. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. **Changes to the Permit from the Previously Issued Permit:**

a. Special Conditions:

- 1) The groundwater monitoring frequency has been reduced from quarterly to a semi-annually.

b. Monitoring and Effluent Limitations:

- 1) The *E. coli* sampling frequency has been increased to once per week because the facility has shown problems in meeting the *E. coli* limits and a down stream bacteria TMDL is present.
- 2) The TRC limits have changes from a monthly and weekly average of 0.003 mg/L and 0.004 mg/L to a monthly and weekly average of 0.018 mg/L and 0.015 mg/L.

c. Other:

- 1) The drainage area the Licking Run discharge point has been recalculated from 17.33 mi² to 16.7 mi². Hence, the stream flow information has been updated to reflect this change.

24. **Variances/Alternate Limits or Conditions:** None

Public Notice Information:

First Public Notice Date: 3/30/2011

Second Public Notice Date: 4/6/2011

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3837, anna.westernik@deq.virginia.gov. See **Attachment 12** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. **303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):**

This facility discharges to Licking Run. The stream segment receiving the effluent is listed on the 2008 303(d) list for not meeting the recreation use due to excursions from the *E. coli* bacteria criterion at DEQ Ambient Monitoring Station 1aLIL001.43. The bacteria TMDL approved by EPA on July 6, 2004 for this stream segment, contains a WLA for discharge from Smith-Midland. Outfall 001 of the permit (municipal discharge) has limits of 126n/cmL (geometric mean) for *E.coli*. There have been violations of this limit during the last permit cycle. Therefore, the monitoring frequency for *E. coli* will be changed from twice each month to weekly in this reissuance. Since Outfall 002 is an industrial discharge, it should not significantly contribute to the bacterial load to the receiving stream (see **Attachment 7**, Planning Statement).

27. Additional Comments:

Previous Board Action(s): On October 11, 2001, the State Water Control Board approved a consent order for Smith-Midland. This order required construction of the new acid etching process wastewater treatment system, which is currently used at the facility. This order was closed on January 23, 2006.

This facility was referred to enforcement on January 12, 2009 due to pH violations at Outfall 002. The case was dereferred on September 8, 2009 due to compliance through informal action (the Outfall 002 treatment system at Smith-Midland was refurbished).

Staff Comments: None

Public Comment: No public comments were received during the public notice period for this permit reissuance.

EPA Checklist: The checklist can be found in **Attachment 13**.

Attachments

- Attachment 1 Flow Frequency Information, 401 Certificate for Germantown Lake
- Attachment 2 Schematic of Sewage Treatment Plant
- Attachment 3 Schematic of Concrete Acid-Washing Process
- Attachment 4 NPDES Permit Rating Worksheet
- Attachment 5 Midland Topographic Map
- Attachment 6 January 7, 2011 Site Inspection
- Attachment 7 Planning Statement
- Attachment 8 90th Percentile Instream pH and Temperature Values
- Attachment 9 Water Quality Criteria, WLAs, and Mixing Zone Predictions
- Attachment 10 Derivation of Ammonia and TRC Limits
- Attachment 11 Stream Model dated July 1990
- Attachment 12 Public Notice
- Attachment 13 EPA Checklist

Flows at Gauging Station 01656000 -- Cedar Run Near Catlett Virginia
Revised February 10, 2011 *by ATW*

Flow Value	CFS	MGD
1Q30	0.003	0.001939
1Q10	0.02	0.012926
HF1Q10	3.8	2.455940
7Q10	0.04	0.025852
HF7Q10	5.1	3.296130
30Q10	0.23	0.148649
HF30Q10	8.7	5.622810
30Q5	0.65	0.420095

Flow Value CFS MGD cfs x 0.6463 = MGD

High Flow Months are December through April

Period Used to Determine 1Q10, 7Q10, 30Q10 Flows: 1950-1986, 1989-2003 (Many Days of Zero Flow); 51 Climatic Years Total

Period Used to Determine Other Flows: 1950-1986, 1989-2003

(This gauge has been in operation from 1950 to 1986 and from 1989 to the present)

Drainage Area at the Gauging Station = 93.4 mi²

Drainage Area at the Licking Run Discharge Point = 16.7 mi²

The flow values at the discharge points are determined by drainage area proportions. Withdrawals, discharges, or springs are not addressed.

(DA Outfall/DA Gauge)Q at Gauge = Flow at Outfall

Flows at the Licking Run Discharge Points Outfalls 001 and 002 (Smith-Midland, Inc.)

Flow Value	MGD
1Q30	0.000347
1Q10	0.002311
HF1Q10	0.439124
7Q10	0.004622
HF7Q10	0.589351
30Q10	0.026579
HF30Q10	1.005363
30Q5	0.075113

The Fauquier County Recreation Department has a 401 Permit for their dam on Licking Run.

The dam, located upstream of the discharge point, is required to maintain a minimum instream flow equivalent to the 7Q10 return frequency drought flow of Licking Run downstream of the dam.

RECEIVED
MAY 17 1980

COMMONWEALTH of VIRGINIA

STATE WATER CONTROL BOARD
2111 Hamilton Street

R. V. Davis
Executive Secretary

Post Office Box 11143
Richmond, Virginia 23220
(804) 257-0056

CERTIFICATE NO. 79-6013

401 CERTIFICATE
Issued To

County Administrator
Fauquier County
14 Main Street
Warrenton, Virginia 22186

BOARD
H. Allen
Chairman
William
Vice Chairman
John H.
Col. J. L.
W. G.
George F.
Millard B.

PURSUANT TO SECTION 401, PUBLIC LAW 95-217

The State Water Control Board hereby certifies, subject to the conditions listed below, that the proposed construction of a multiple purpose impoundment structure in Licking Run near Midland, Fauquier County, as specified in the application submitted to the Board on February 28, 1979, and completed on September 16, 1980, and other correspondence or communications supplied to the Board by the applicant, will comply with (1) the Virginia Water Quality Standards which became effective on 20 July 1970 and which are, as amended, in full force and effect under Section 303(a) of Public Law 95-217; (2) other applicable limitations, standards, regulations, and requirements established in accordance with the State Water Control Law (Title 62.1-44.2 through 62.1-44.34 of the Code of Virginia (1950), as amended). The Board further certifies that there are no other applicable promulgated effluent limitations or other limitations under Section 301, 302, and 303 and there is not an applicable standard under Section 306 or 307 of Public Law 95-217 presently in effect.

This Certification of Compliance is valid providing Fauquier County complies with the following conditions, limitations, and/or requirements:

1. That all work should be performed in a manner which results in minimizing the sedimentation of State waters.
2. That all denuded or fill areas associated with the construction or operation of the project should be provided with adequate ground cover or vegetation immediately upon completion of the project to arrest soil erosion.
3. That the release from the impoundment is subject to the following limitations:
 - a. The Dissolved Oxygen concentration must be at least 4.0 mg/l and must have a daily average of 5.0 mg/l.
 - b. pH must be at least 6.0 with a maximum of 8.5.
 - c. The maximum allowable temperature shall be 32°C. The temperature of the release shall not exceed 3°C above the weekly average of the daily maximum downstream temperature prior to construction.

d. Total dissolved solids shall not exceed 500 mg/l. A monitoring program to establish the data base for the temperature standard (3(c) above) should be implemented prior to construction. A plan detailing this program should be submitted to the Board for approval.

✓
see next
page

4. That the minimum release from the impoundment should be equivalent to the seven-ten-year return frequency drought flow of Licking Run.
5. That a vegetated buffer zone at least 50 feet in width should be maintained around the impoundment at all times.
6. That the procedures detailed in the "Best Management Practices Handbook for Hydrologic Modifications (State Water Control Board Planning Bulletin 319)" should be followed.
7. That the applicant shall submit for approval by the State Water Control Board an acceptable erosion and sedimentation control plan to be implemented during the construction and operation of the project. This plan must be submitted at least 90 days prior to construction.
8. In the event that a fish kill should occur in the impoundment and the suspected cause of the fish kill is determined by the State Water Control Board to be eutrophication, the applicant shall determine measures to mitigate the cause of the fish kill.
9. That the State Water Control Board's Northern Regional Office be notified when clearing or construction begins so that staff inspections of the project may be made.
10. The applicant shall immediately notify the Board of any modification of this project and shall demonstrate in a written statement to the Board that said modifications will not violate any conditions listed in this Certification. If such demonstration cannot be made, the applicant shall apply to the Board for a modification of this Certification.
11. In issuing this Certification, the Board has relied upon the statement and representation made by the applicant in their application and other correspondence or communications.
12. In issuing this Certification, the Board has not taken into consideration the structural stability of the proposed structure.
13. This Certification is subject to revocation for failure to comply with the above conditions and after proper hearing.

In addition, this Certification is issued with the understanding that, in accordance with the plans for the project, Fauquier County and their project contractor will not violate the Water Quality Standards as a result of a direct or indirect discharge of construction material to State waters. It is further understood that any direct or indirect discharge of construction material from the proposed project to State waters will be subject to abatement and control under the State Water Control Law.

Page 3

By: Raymond E. Bowles

Raymond S. Bowles, P.E.-Director
Bureau of Surveillance & Field Studies

Date: 2-3-87

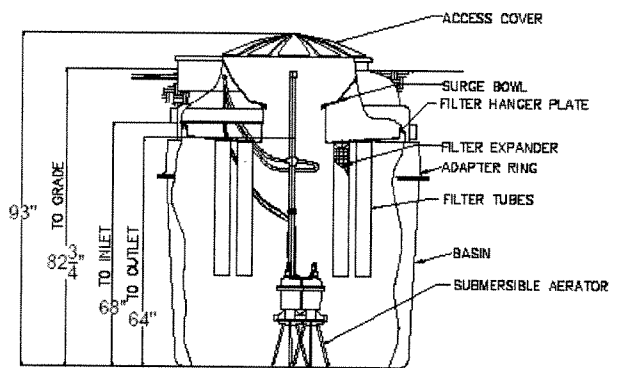
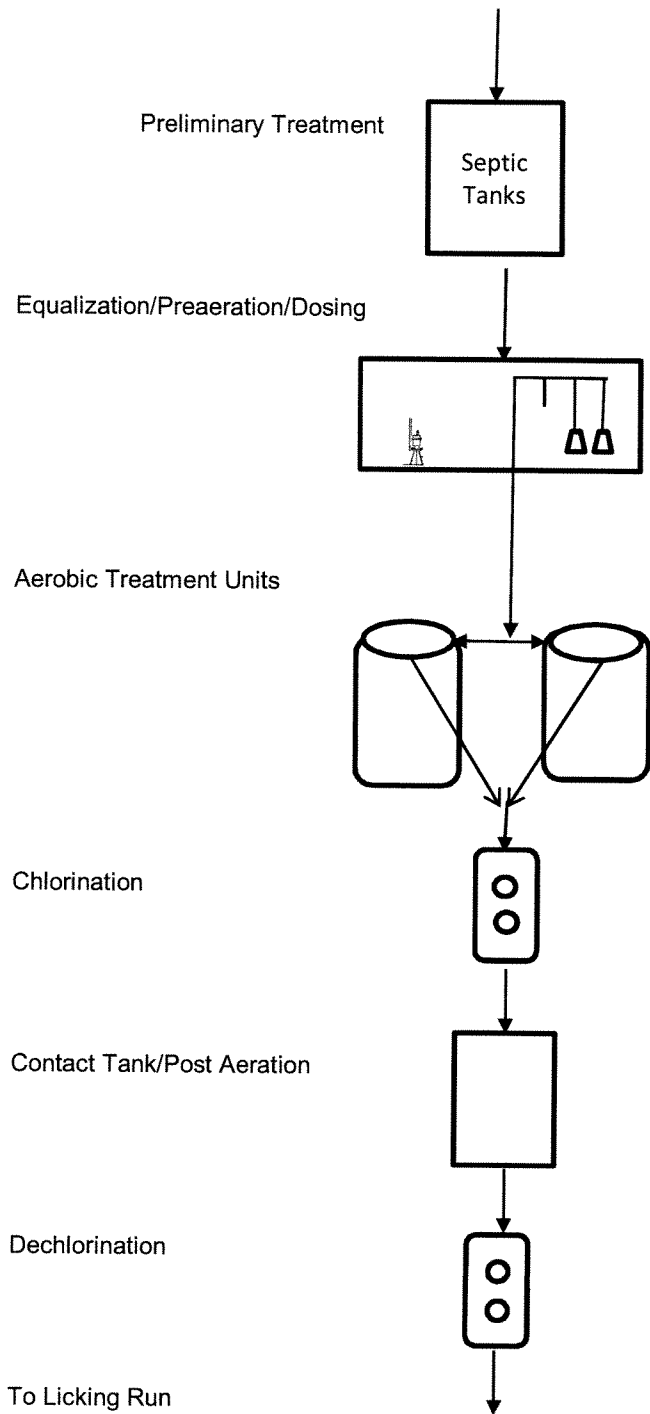
Acceptance of the above provisions and conditions is acknowledge by:

By: _____

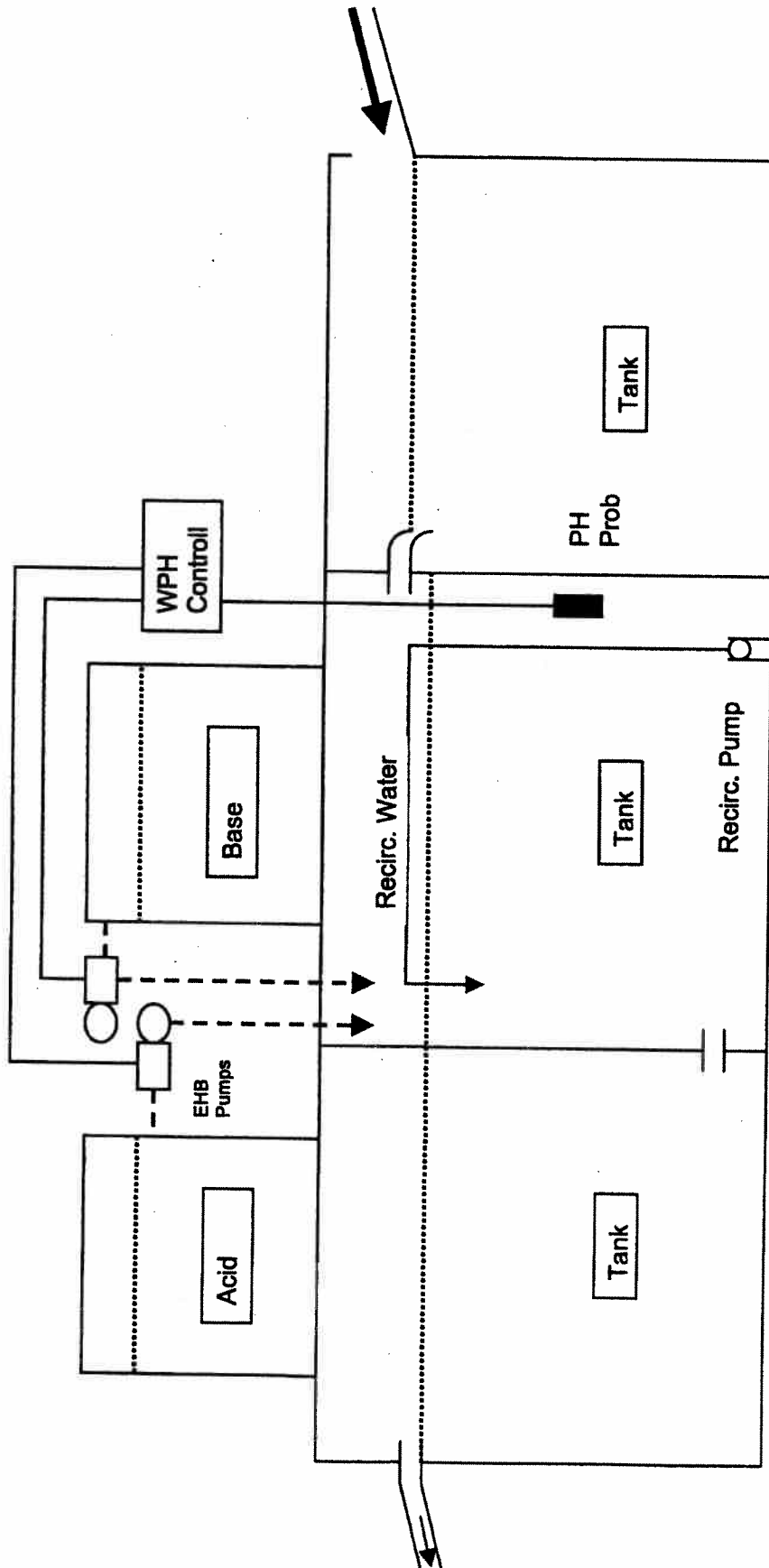
Administrator, Fauquier County

Date: _____

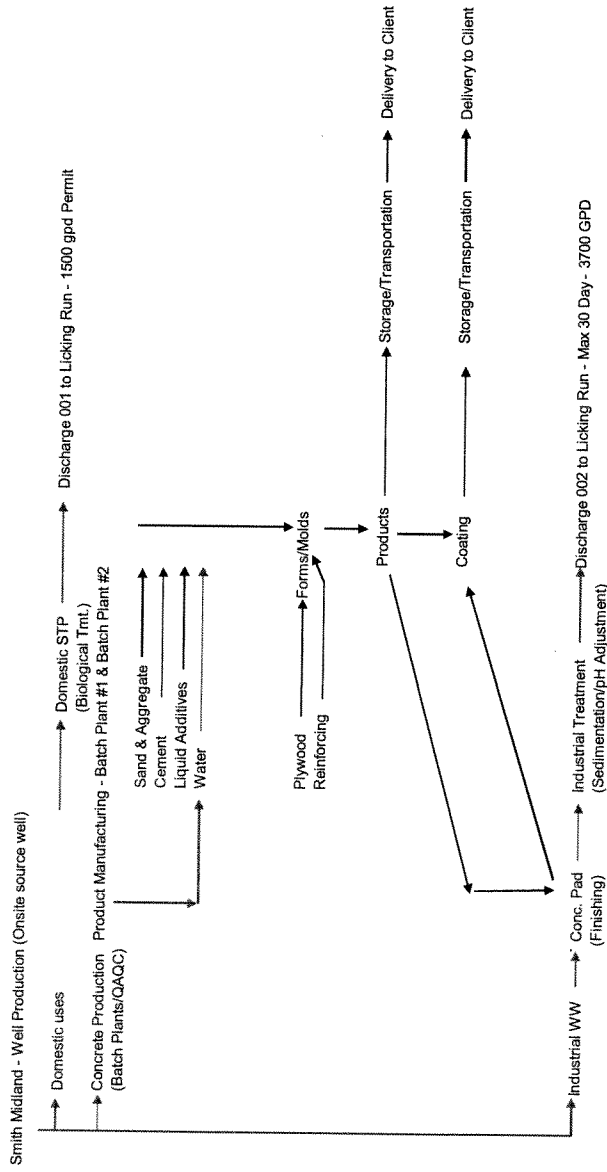
**Smith Midland
Domestic Wastewater STP**



SMITH-MIDLAND **PROCESS WATER TREATMENT FACILITY**



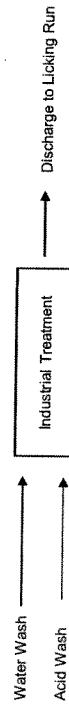
SMITH MIDLAND CORPORATION LINE DIAGRAM OF WATER USE



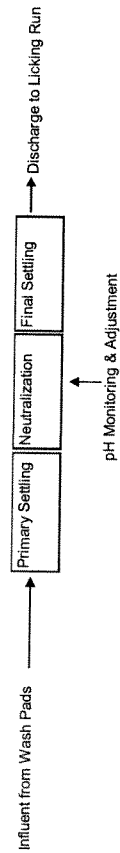
Outfall 002 Treatment/Flow Diagram - Industrial Waste Treatment

Product Finishing on Pads

- Sand Blasting - Surface etching to enhance appearance - Does not generate wastewater
- Water Wash - Removal of non-hardened superficial layer of cement to expose aggregate by high pressure water wash
- Acid Wash - Using high pressure hot water wash and muriatic acid the surface is etched to create texture & aesthetic appeal



Treatment (Settling & Neutralization)



The water wash and acid wash are performed as production demands. Operations generally 5 days/week
All finishing operations are a function of "demand". The volumes/schedule may change based on sales.

NPDES PERMIT RATING WORK SHEETVPDES NO. : VA0084298

<input type="checkbox"/>	Regular Addition
<input type="checkbox"/>	Discretionary Addition
<input checked="" type="checkbox"/>	Score change, but no status Change
<input type="checkbox"/>	Deletion

Facility Name: Smith-MidlandCity / County: FauquierReceiving Water: Licking Run

Reach Number: _____

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)

2. A nuclear power Plant

3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

☐ Yes; score is 600 (stop here) ☒ NO; (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

☐ YES; score is 700 (stop here)☒ NO; (continue)**FACTOR 1: Toxic Pollutant Potential**

PCS SIC Code: _____ Primary Sic Code: 4961 Other Sic Codes: 3732 _____
 Industrial Subcategory Code: 099 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input type="checkbox"/> 7.	7	35
<input checked="" type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: 1**Total Points Factor 1:** 5**FACTOR 2: Flow/Stream Flow Volume**

(Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)	Code	Points
Type I: Flow < 5 MGD	<input type="checkbox"/> 11	0
Flow 5 to 10 MGD	<input type="checkbox"/> 12	10
Flow > 10 to 50 MGD	<input type="checkbox"/> 13	20
Flow > 50 MGD	<input type="checkbox"/> 14	30
Type II: Flow < 1 MGD	<input type="checkbox"/> 21	10
Flow 1 to 5 MGD	<input type="checkbox"/> 22	20
Flow > 5 to 10 MGD	<input type="checkbox"/> 23	30
Flow > 10 MGD	<input type="checkbox"/> 24	50
Type III: Flow < 1 MGD	<input type="checkbox"/> 31	0
Flow 1 to 5 MGD	<input type="checkbox"/> 32	10
Flow > 5 to 10 MGD	<input type="checkbox"/> 33	20
Flow > 10 MGD	<input type="checkbox"/> 34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
Type I/III:	< 10 %	<input type="checkbox"/> 41	0
	10 % to < 50 %	<input type="checkbox"/> 42	10
	> 50 %	<input type="checkbox"/> 43	20
Type II:	< 10 %	<input type="checkbox"/> 51	0
	10 % to < 50 %	<input checked="" type="checkbox"/> 52	20
	> 50 %	<input type="checkbox"/> 53	30

Code Checked from Section A or B: 52**Total Points Factor 2:** 20

NPDES PERMIT RATING WORK SHEET**FACTOR 3: Conventional Pollutants**

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: _____

Permit Limits: (check one)

☒
☐
☐
☐

< 100 lbs/day
 100 to 1000 lbs/day
 > 1000 to 3000 lbs/day
 > 3000 lbs/day

Code	Points
1	0
2	5
3	15
4	20

Code Number Checked:

1

Points Scored:**0**

B. Total Suspended Solids (TSS)

Permit Limits: (check one)

☐
☒
☐
☐

< 100 lbs/day
 100 to 1000 lbs/day
 > 1000 to 5000 lbs/day
 > 5000 lbs/day

Code	Points
1	0
2	5
3	15
4	20

Code Number Checked:

2

Points Scored:**5**

C. Nitrogen Pollutants: (check one)

☐ Ammonia ☐ Other: _____

Permit Limits: (check one)

☐
☐
☐
☐

Nitrogen Equivalent
 < 300 lbs/day
 300 to 1000 lbs/day
 > 1000 to 3000 lbs/day
 > 3000 lbs/day

Code	Points
1	0
2	5
3	15
4	20

Code Number Checked:

N/A

Points Scored:**0****Total Points Factor 3:****5****FACTOR 4: Public Health Impact**

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☒ YES; (If yes, check toxicity potential number below)☐ NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1.
 (Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input type="checkbox"/> 7.	7	15
<input checked="" type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked:

1

Total Points Factor 4:**0**

NPDES PERMIT RATING WORK SHEET

FACTOR 5: Water Quality Factors

- A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines or technology-based state effluent guidelines) or has a wasteload allocation been given to the discharge?

	Code	Points
<input checked="" type="checkbox"/> YES	1	10
<input type="checkbox"/> NO	2	0

- B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
<input checked="" type="checkbox"/> YES	1	0
<input type="checkbox"/> NO	2	5

- C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
<input type="checkbox"/> YES	1	10
<input checked="" type="checkbox"/> NO	2	0

Code Number Checked:

Points Factor 5:

$$A \frac{1}{10} + B \frac{1}{0} + C \frac{2}{0} = 10$$

FACTOR 6: Proximity to Near Coastal Waters

- A. Base Score: Enter flow code here (from factor 2) 52

Check appropriate facility HPRI code (from PCS):

HPRI#	Code	HPRI Score
<input type="checkbox"/> 1	1	20
<input type="checkbox"/> 2	2	0
<input type="checkbox"/> 3	3	30
<input checked="" type="checkbox"/> 4	4	0
<input type="checkbox"/> 5	5	20

Enter the multiplication factor that corresponds to the flow code: 0.3

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked : 4Base Score (HPRI Score): 0 X (Multiplication Factor) 0.3 = 0

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay? **N/A**

Code	Points
<input type="checkbox"/> 1	10
<input type="checkbox"/> 2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)? **N/A**

Code	Points
<input type="checkbox"/> 1	10
<input type="checkbox"/> 2	0

Code Number Checked:

Points Factor 6:

$$A \frac{4}{0} + B \frac{N/A}{0} + C \frac{N/A}{0} = 0$$

NPDES PERMIT RATING WORK SHEET

VA0084298

SCORE SUMMARY

<u>Factor</u>	<u>Description</u>	<u>Total Points</u>
1	Toxic Pollutant Potential	5
2	Flows / Streamflow Volume	20
3	Conventional Pollutants	5
4	Public Health Impacts	0
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	40

S1. Is the total score equal to or greater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

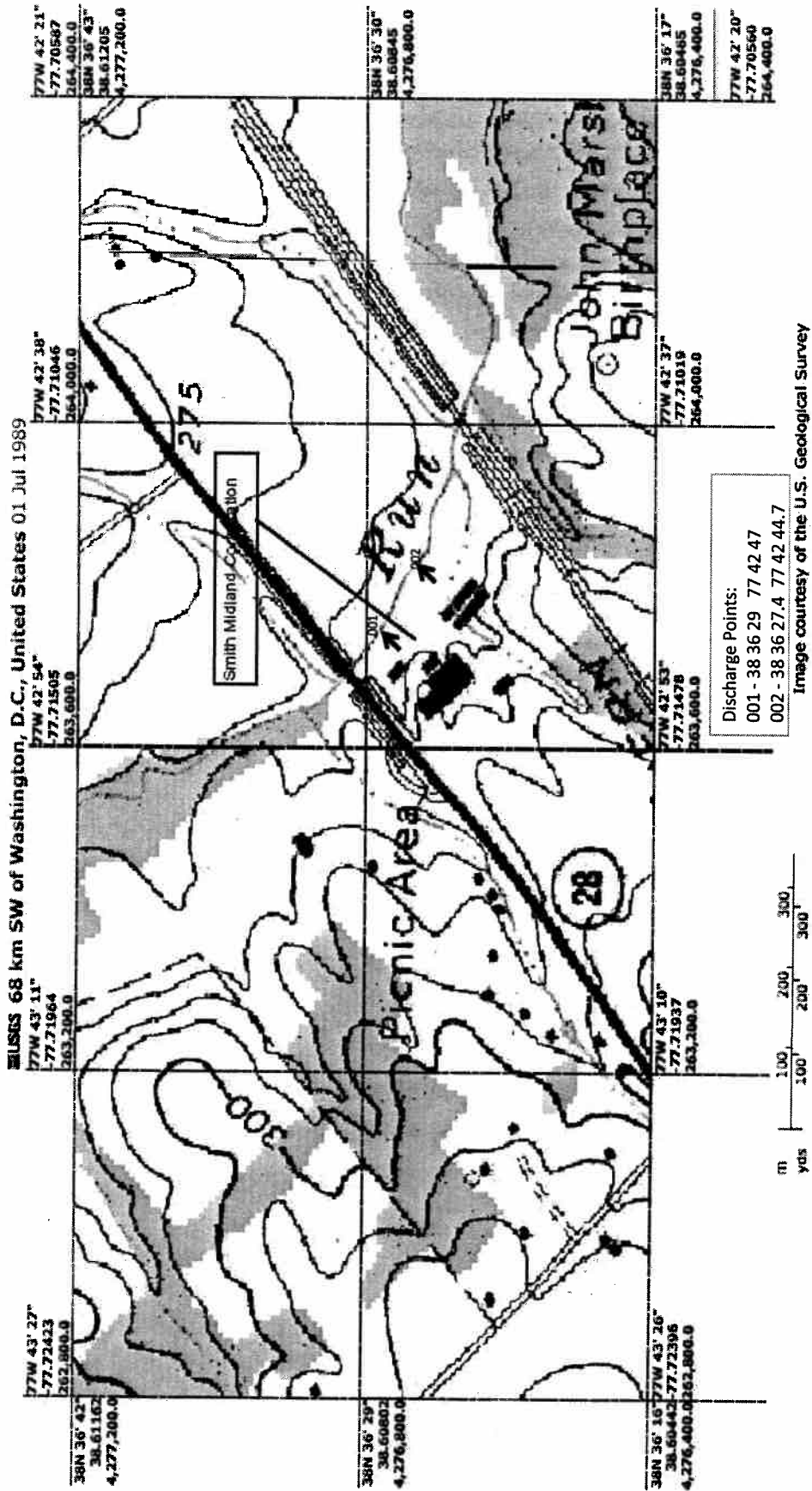
☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason:

NEW SCORE : 40
OLD SCORE : 30

Permit Reviewer's Name : Anna Westernik
Phone Number: 703-583-3837
Date: November 15, 2010





MEMORANDUM

Northern Regional Office

TO: File

FROM: Anna Westernik, Water Permit Writer

DATE: January 12, 2011

SUBJECT: January 4, 2010 Site Visit to Smith-Midland (VA0084298)

A site visit was made to the Smith-Midland facility on January 4, 2011 to observe facility operation prior to reissuing the permit that expires on April 5, 2011. Present during the inspection were Doug Frasier and myself from DEQ and Guy Schuch and Wes Taylor from Smith Midland. The sewage treatment plant and the acid-washing operation were visited on this date.

Outfall 001 (Sewage Treatment Plant)

Wastewater generated from the operations at Smith-Midland enters two septic tanks (one at the engineering building and one at the office building) and then flows to an aerated equalization tank. Secondary treatment takes place in two 1000-gpd Multi-Flow package plants operating in parallel. Disinfection occurs after secondary treatment via a tablet chlorinator and a chlorine contact tank. Post-aeration occurs directly after chlorination. A tablet feeder is used for dechlorination. Sampling of Outfall 001 occurs directly after dechlorination (38° 36' 29"; 77° 42' 48.8"). On this date, the effluent from the Multi-Flow Unit was turbid.

Outfall 001 discharges into Licking Run at Rivermile 5.59 (38° 36' 29"; 77° 42' 47"). The stream in the discharge area is approximately 10 to 15 feet wide and 2 feet deep. Stream volume lessens considerably in the summer months. The stream was murky in appearance. Aquatic life and the stream bottom could not be observed.

Outfall 002 (Concrete Acid-Washing Process)

Washing and acid etching of the finished concrete product is being conducted on a sloped concrete pad in an outdoor area of the Smith-Midland property. The concrete product is either washed with water only, acid etched and washed with hot water, or sandblasted. High-pressure washing removes the superficial layer of cement and sand. The concrete is sprayed with hydrochloric acid dispensed through an injection pump to further etch the surface. Some forms are painted with rollers. All paint products are disposed of as solid waste. Nothing from the painting process is discharged. Effluent created from the washing operations is discharged to a series of three concrete vaults for treatment.

The first concrete vault acts as a settling basin for concrete fines. The second vault contains a pH probe and

January 4, 2011 Site Visit to Smith-Midland (VA00842978)

Page 2

January 12, 2011

an automatic chemical feed pump to add caustic soda to neutralize the discharge. The third vault acts as a clarification basin to collect any remaining solids. The third vault discharges via Outfall 002 to Licking Run approximately 0.05 miles downstream of Outfall 001 (38° 36' 27.4"; 77° 42' 44.7").

Operational procedure states that the concrete product is washed on the sloped concrete pad so that the wastewater is discharged to the concrete vaults and properly neutralized before discharge to Licking Run. Solids are cleaned from the concrete slab with a shovel or backhoe. Solids are removed from the concrete vaults as needed and disposed of in an approved location (e.g., a landfill).

Chemical storage is primarily under cover. Some chemicals are stored in the open. All containers are UN and DOT approved polyethylene intermediate bulk containers.

To: Anna Westernik
From: Jennifer Carlson

Date: November 10, 2010
Subject: Planning Statement for Smith-Midland
Permit No: VA0084298

Discharge Type: Municipal/Industrial
Discharge Flow: 0.0015 MGD Municipal (Outfall 001); 0.0037 MGD Industrial (Outfall 002)
Receiving Stream: Licking Run
Latitude / Longitude: 38°36'29" / 77°42'47" (Outfall 001);
38°36'27.4" / 77°42'44.7" (Outfall 002)
Streamcode: 1aLIL
Waterbody: A17R/PL37
Rivermile: 5.58 (Outfall 001), 5.53 (Outfall 002)
Water Quality Stds: Class III, Section 7a, sp. Stds. g

1. Is there monitoring data for the receiving stream?

Yes, there is monitoring data for Licking Run.

- If yes, please attach latest summary.

Outfall 001 and Outfall 002 discharge into Licking Run, assessment unit VAN-A17R_LIL01A00, which begins at the boundary of the PWS designation area, approximately 0.24 rivermile downstream from Route 602, and continues downstream until the confluence with Cedar Run. DEQ water quality monitoring data is collected at station 1aLIL001.43, which is located approximately 3.9 miles downstream of Outfall 002 at the Rt. 616 bridge crossing. The following is the monitoring summary for this segment of Licking Run, as taken from the Draft 2010 Integrated Assessment:

Class III, Section 7a, special stds. g.

DEQ ambient water quality monitoring station 1aLIL001.43, at Route 616.

E. coli monitoring finds a bacteria impairment, resulting in an impaired classification for the recreation use. A bacteria TMDL for the Licking Run watershed has been completed and approved. The aquatic life and wildlife uses are considered fully supporting. The fish consumption use was not assessed.

- If no, where is the nearest downstream monitoring station. N/A

2. Is the receiving stream on the current 303(d) list? Yes.

- If yes, what is the impairment?

Licking Run is listed as not meeting the recreation use. Sufficient excursions from the instantaneous *E. coli* bacteria criterion (9 of 31 samples - 29.0%) were recorded at DEQ's ambient water quality monitoring station (1aLIL001.43) at the Route 616 crossing to assess this stream segment as not supporting the recreation use goal for the 2010 water quality assessment.

- Has the TMDL been prepared?

Yes, the Licking Run Bacteria TMDL was completed and approved by EPA on 7/6/2004.

- If yes, what is the WLA for the discharge?

VA0084298 has a WLA of 2.61E+09 (cfu/year) of *E. coli*.

- If no, what is the schedule for the TMDL? N/A

3. If the answer to (2) above is no, is there a downstream 303(d) listed impairment? N/A

- If yes, what is the impairment? N/A

- Has a TMDL been prepared? N/A

- Will the TMDL include the receiving stream? N/A

- Is there a WLA for the discharge? N/A

- What is the schedule for the TMDL? N/A

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

Not at this time.

5. Could you please calculate the drainage area at the outfall?

The drainage area at Outfall 001 is 16.7 mi².

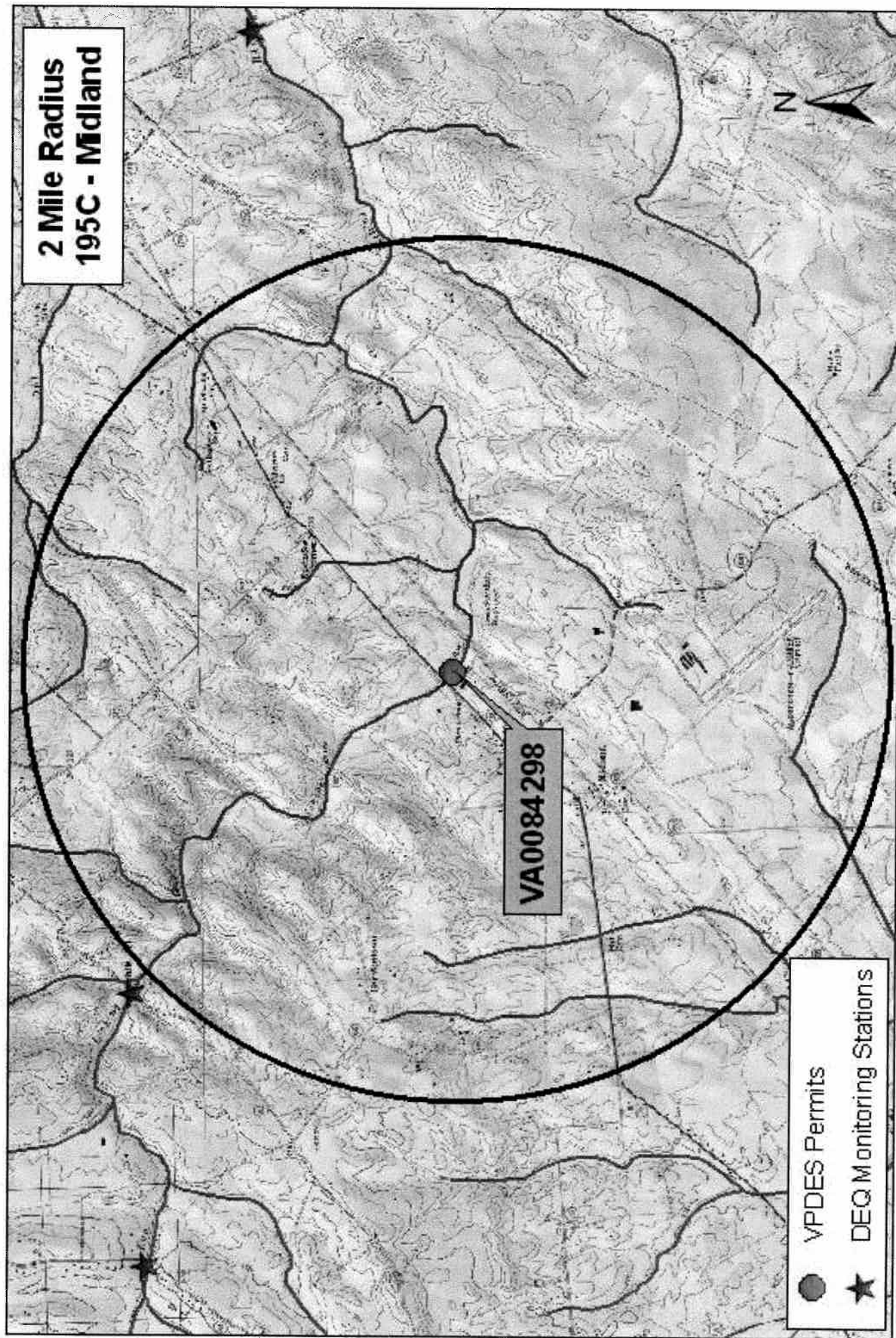
6. Fact Sheet Requirements – Please provide information on other individual VPDES permits or VA DEQ monitoring stations located within a 2 mile radius of the facility. In addition, please provide information on any drinking water intakes located within a 5 mile radius of the facility.

There are no drinking water intakes located within a 5 mile radius of this facility. There are no other individual VPDES permits or DEQ monitoring stations located within a 2 mile radius of this facility.

**2 Mile Radius
195C - Midland**

VA0084298

- VPDES Permits
- ★ DEQ Monitoring Stations



pH/Temperature Field Data for DEQ Monitoring Station 1ALIL001.43
Nov 2000 -- April 2008

Station ID	Collection Date & Time	Depth (m)	Temp (C)	pH (SU)	D.O. (mg/L)
1ALIL001.43	27/11/2000	.30	7.77	7.16	11.57
1ALIL001.43	21/06/2001	.30	22.97	7.01	8.09
1ALIL001.43	29/01/2003	.30	.51	7.72	NULL
1ALIL001.43	22/07/2003	.30	24.34	7.24	5.70
1ALIL001.43	30/09/2003	.30	15.40	6.90	8.50
1ALIL001.43	06/10/2003	.30	14.70	7.43	8.85
1ALIL001.43	06/11/2003	.30	17.57	7.00	7.81
1ALIL001.43	03/12/2003	.30	3.98	7.38	11.11
1ALIL001.43	19/07/2004	.30	21.41	7.23	8.67
1ALIL001.43	27/09/2004	.30	17.69	7.26	5.17
1ALIL001.43	22/11/2004	.30	11.76	7.16	10.32
1ALIL001.43	14/02/2005	.30	4.17	7.47	13.96
1ALIL001.43	31/03/2005	.30	9.65	7.08	11.35
1ALIL001.43	26/04/2005	.30	14.02	7.90	12.06
1ALIL001.43	06/06/2005	.30	26.10	7.08	6.34
1ALIL001.43	27/02/2007	.30	3.60	7.40	13.70
1ALIL001.43	17/04/2007	.30	9.30	7.20	11.30
1ALIL001.43	19/06/2007	.30	22.60	7.20	7.00
1ALIL001.43	28/08/2007	.30	23.00	7.30	5.90
1ALIL001.43	30/10/2007	.30	9.10	7.20	NULL
1ALIL001.43	20/12/2007	.30	2.10	7.40	12.80
1ALIL001.43	28/02/2008	.30	2.90	8.10	17.60
1ALIL001.43	31/03/2008	.30	7.80	7.80	13.90
1ALIL001.43	22/05/2008	.30	15.60	7.20	9.80
1ALIL001.43	07/07/2008	.30	22.50	7.40	6.40
1ALIL001.43	02/09/2008	.30	19.70	7.40	7.20
1ALIL001.43	04/11/2008	.30	11.70	7.80	5.50
90th Percentile			22.98	7.8	
10th Percentile			3.32	7.05	

Smith-Midland Effluent pH Data

(Derived from Dec 2009--Dec 2010 DMRs)

7.5	
7.6	
7.7	
7.7	
8.1	
7.9	
7.4	
7.3	
7.9	
7.9	
7.7	
7.9	
7.7	
6.9	
7	
7.2	
7.2	
7.3	
6.8	
6.4	
6.4	
7.2	
7.1	
6.8	
6.5	
7	
7.9	90th Percentile
6.65	10th Percentile

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Smith-Midland -- Outfall 001

Permit No.: VA0012345

Receiving Stream: Licking Run

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows			Mixing Information			Effluent Information		
Mean Hardness (as CaCO ₃) =	50 mg/L		1Q10 (Annual) =	0.0023 MGD		Annual - 1Q10 Mix =	100 %		Mean Hardness (as CaCO ₃) =	50 mg/L	
90% Temperature (Annual) =	23 deg C		7Q10 (Annual) =	0.0046 MGD		- 7Q10 Mix =	100 %		90% Temp (Annual) =	deg C	
90% Temperature (Wet season) =	20 deg C		30Q10 (Annual) =	0.0266 MGD		- 30Q10 Mix =	100 %		90% Temp (Wet season) =	deg C	
90% Maximum pH =	7.8 SU		1Q10 (Wet season) =	0.4391 MGD		Wet Season - 1Q10 Mix =	100 %		90% Maximum pH =	7.9 SU	
10% Maximum pH =	7 SU		30Q10 (Wet season) =	1.0054 MGD		- 30Q10 Mix =	100 %		10% Maximum pH =	6.6 SU	
Tier Designation (1 or 2) =	2		30Q5 =	0.0751 MGD		Harmonic Mean =			Discharge Flow =	0.0015 MGD	
Public Water Supply (PWS) Y/N? =	n										
Trout Present Y/N? =	n										
Early Life Stages Present Y/N? =	y										

Parameter (μ g/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Acenaphthene	0	--	--	na	9.9E+02	--	--	na	5.1E+04	--	--	9.9E+01	na	--	--	5.1E+03
Acrolein	0	--	--	na	9.9E+00	--	--	na	4.8E+02	--	--	9.3E-01	na	--	--	4.8E+01
Acrylonitrile ^C	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	2.5E-01	na	--	--	2.5E-01
Aldrin ^C	0	3.0E+00	--	na	5.0E-04	7.6E+00	--	na	5.0E-04	7.5E-01	--	na	5.0E-05	1.9E+00	--	na
Ammonia-N (mg/l) (Yearly)	0	1.14E+01	1.98E+00	na	--	2.9E+01	3.7E+01	na	--	2.84E+00	4.95E-01	na	--	7.2E+00	9.3E+00	na
Ammonia-N (mg/l) (High Flow)	0	1.21E+01	2.24E+00	na	--	3.6E+03	1.5E+03	na	--	3.03E+00	5.60E-01	na	--	8.9E+02	3.8E+02	na
Anthracene	0	--	--	na	4.0E+04	--	--	na	2.0E+06	--	--	4.0E+03	na	--	--	2.0E+05
Antimony	0	--	--	na	6.4E+02	--	--	na	3.3E+04	--	--	6.4E+01	na	--	--	3.3E+03
Arsenic	0	3.4E+02	1.5E+02	na	--	8.6E+02	6.1E+02	na	--	8.5E+01	3.8E+01	na	--	2.2E+02	1.5E+02	na
Barium	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na
Benzene ^C	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	5.1E+01	na	--	--	5.1E+01
Benzidine ^C	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	2.0E-04	na	--	--	2.0E-04
Benzo (a) anthracene ^C	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	1.8E-02	na	--	--	1.8E-02
Benzo (b) fluoranthene ^C	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	1.8E-02	na	--	--	1.8E-02
Benzo (k) fluoranthene ^C	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	1.8E-02	na	--	--	1.8E-02
Benzo (a) pyrene ^C	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	1.8E-02	na	--	--	1.8E-02
Bis(2-Chloroethyl) Ether ^C	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	5.3E-01	na	--	--	5.3E-01
Bis(2-Chloroisopropyl) Ether	0	--	--	na	6.5E+04	--	--	na	3.3E+06	--	--	6.5E+03	na	--	--	3.3E+05
Bis 2-Ethylhexyl Phthalate ^C	0	--	--	na	2.2E+01	--	--	na	2.2E+00	--	--	2.2E+00	na	--	--	2.2E+00
Bromofom ^C	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	1.4E+02	na	--	--	1.4E+02
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	9.7E+04	--	--	1.9E+02	na	--	--	9.7E+03
Cadmium	0	1.8E+00	6.6E-01	na	--	4.6E+00	2.7E+00	na	--	4.5E-01	1.6E-01	na	--	1.1E+00	6.7E-01	na
Carbon Tetrachloride ^C	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	1.6E+00	na	--	--	1.6E+00
Chlordane ^C	0	2.4E+00	4.3E-03	na	8.1E-03	6.1E+00	1.8E-02	na	8.1E-03	6.0E-01	1.1E-03	na	8.1E-04	1.5E+00	4.4E-03	na
Chloride	0	8.6E+05	2.3E+05	na	--	2.2E+06	9.4E+05	na	--	2.2E+05	5.8E+04	na	--	5.5E+05	2.3E+05	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
TRC	0	1.9E+01	1.1E+01	na	--	4.8E+01	4.5E+01	na	--	4.8E+00	2.8E+00	na	--	1.2E+01	1.1E+01	na
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	8.2E+04	--	--	na	1.6E+02	--	--	8.2E+03

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane ^c	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	na	1.3E+01	--	--	na	1.3E+01	--	--	na	1.3E+01
Chloroform	0	--	--	na	1.1E+04	--	--	na	5.6E+05	--	--	na	1.1E+03	--	--	na	5.6E+04	--	--	na	5.6E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	8.2E+04	--	--	na	1.6E+02	--	--	na	8.2E+03	--	--	na	8.2E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	7.7E+03	--	--	na	1.5E+01	--	--	na	7.7E+02	--	--	na	7.7E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	2.1E-01	1.7E-01	na	--	2.1E-02	1.0E-02	na	--	5.3E-02	4.2E-02	na	--	5.3E-02	4.2E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	8.2E+02	1.7E+02	na	--	8.1E+01	1.1E+01	na	--	2.1E+02	4.3E+01	na	--	2.1E+02	4.3E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	4.1E+01	4.5E+01	na	--	4.0E+00	2.8E+00	na	--	1.0E+01	1.1E+01	na	--	1.0E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	1.0E+01	--	--	--	5.1E+02	--	--	--	na	--
Chrysene ^c	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-03	--	--	na	1.8E-03	--	--	na	1.8E-03
Copper	0	7.0E+00	5.0E+00	na	--	1.8E+01	2.0E+01	na	--	1.7E+00	1.2E+00	na	--	4.4E+00	5.1E+00	na	--	4.4E+00	5.1E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	5.6E+01	2.1E+01	na	8.2E+05	5.5E+00	1.3E+00	na	1.6E+03	1.4E+01	5.3E+00	na	8.2E+04	1.4E+01	5.3E+00	na	8.2E+04
DDD ^c	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	na	3.1E-04	--	--	na	3.1E-04	--	--	na	3.1E-04
DDE ^c	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	na	2.2E-04	--	--	na	2.2E-04	--	--	na	2.2E-04
DDT ^c	0	1.1E+00	1.0E-03	na	2.2E-03	2.8E+00	4.1E-03	na	2.2E-03	2.8E-01	2.5E-04	na	2.2E-04	7.0E-01	1.0E-03	na	2.2E-04	7.0E-01	1.0E-03	na	2.2E-04
Demeton	0	--	1.0E-01	na	--	--	4.1E-01	na	--	--	2.5E-02	na	--	--	1.0E-01	na	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	4.3E-01	6.9E-01	na	--	4.3E-02	4.3E-02	na	--	1.1E-01	1.7E-01	na	--	1.1E-01	1.7E-01	na	--
Dibenz(a,h)anthracene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-02
1,2-Dichlorobenzene	0	--	--	na	1.3E-03	--	--	na	6.6E+04	--	--	na	1.3E+02	--	--	na	6.6E+03	--	--	na	6.6E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E-02	--	--	na	4.9E+04	--	--	na	9.6E+01	--	--	na	4.9E+03	--	--	na	4.9E+03
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	9.7E+03	--	--	na	1.9E+01	--	--	na	9.7E+02	--	--	na	9.7E+02
3,3-Dichlorobenzidine ^c	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	na	2.8E-02	--	--	na	2.8E-02	--	--	na	2.8E-02
Dichlorobromomethane ^c	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	na	1.7E+01	--	--	na	1.7E+01	--	--	na	1.7E+01
1,2-Dichloroethane ^c	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	na	3.7E+01	--	--	na	3.7E+01	--	--	na	3.7E+01
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	3.6E+05	--	--	na	7.1E+02	--	--	na	3.6E+04	--	--	na	3.6E+04
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	5.1E+05	--	--	na	1.0E+03	--	--	na	5.1E+04	--	--	na	5.1E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	1.5E+04	--	--	na	2.9E+01	--	--	na	1.5E+03	--	--	na	1.5E+03
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,2-Dichloropropane ^c	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	na	1.5E+01
1,3-Dichloropropene ^c	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	na	2.1E+01	--	--	na	2.1E+01	--	--	na	2.1E+01
Dieldrin ^c	0	2.4E-01	5.6E-02	na	5.4E+04	6.1E-01	2.3E-01	na	5.4E+04	6.0E-02	1.4E-02	na	5.4E+05	1.5E-01	5.7E-02	na	5.4E+05	1.5E-01	5.7E-02	na	5.4E+05
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	2.2E+06	--	--	na	4.4E+03	--	--	na	2.2E+05	--	--	na	2.2E+05
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	4.3E+04	--	--	na	8.5E+01	--	--	na	4.3E+03	--	--	na	4.3E+03
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	5.6E+07	--	--	na	1.1E+05	--	--	na	5.6E+06	--	--	na	5.6E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	2.3E+05	--	--	na	4.5E+02	--	--	na	2.3E+04	--	--	na	2.3E+04
2,4-Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	2.7E+05	--	--	na	5.3E+02	--	--	na	2.7E+04	--	--	na	2.7E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	1.4E+04	--	--	na	2.8E+01	--	--	na	1.4E+03	--	--	na	1.4E+03
2,4-Dinitrotoluene ^c	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	na	3.4E+00	--	--	na	3.4E+00	--	--	na	3.4E+00
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	2.6E-06	--	--	na	5.1E-09	--	--	na	2.6E-07	--	--	na	2.6E-07
1,2-Diphenylhydrazine ^c	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	na	2.0E-01	--	--	na	2.0E-01	--	--	na	2.0E-01
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	5.6E-01	2.3E-01	na	4.5E+03	5.5E-02	1.4E-02	na	8.9E+00	1.4E-01	5.7E-02	na	4.5E+02	1.4E-01	5.7E-02	na	4.5E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	5.6E-01	2.3E-01	na	4.5E+03	5.5E-02	1.4E-02	na	8.9E+00	1.4E-01	5.7E-02	na	4.5E+02	1.4E-01	5.7E-02	na	4.5E+02
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	5.6E-01	2.3E-01	--	--	5.5E-02	1.4E-02	--	--	1.4E-01	5.7E-02	--	--	1.4E-01	5.7E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	4.5E+03	--	--	na	8.9E+00	--	--	na	4.5E+02	--	--	na	4.5E+02
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	2.2E-01	1.5E-01	na	3.1E+00	2.2E-02	9.0E-03	na	6.0E-03	5.5E-02	3.7E-02	na	3.1E-01	5.5E-02	3.7E-02	na	3.1E-01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	1.5E+01	--	--	na	3.0E-02	--	--	na	1.5E+00	--	--	na	1.5E+00

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	1.1E+05	--	--	na	2.1E+02	--	--	na	1.1E+04	--	--	na	1.1E+04
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	7.2E+03	--	--	na	1.4E+01	--	--	na	7.2E+02	--	--	na	7.2E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	2.7E+05	--	--	na	5.3E+02	--	--	na	2.7E+04	--	--	na	2.7E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	4.1E-02	na	--	--	2.5E-03	na	--	--	1.0E-02	na	--	--	1.0E-02	na	--
Heptachlor ^C	0	5.2E-01	3.8E-03	na	7.9E-04	1.3E+00	1.6E-02	na	7.9E-04	1.3E-01	9.5E-04	na	7.9E-05	3.3E-01	3.9E-03	na	7.9E-05	3.3E-01	3.9E-03	na	7.9E-05
Heptachlor Epoxide ^C	0	5.2E-01	3.8E-03	na	3.9E-04	1.3E+00	1.6E-02	na	3.9E-04	1.3E-01	9.5E-04	na	3.9E-05	3.3E-01	3.9E-03	na	3.9E-05	3.3E-01	3.9E-03	na	3.9E-05
Hexachlorobenzene ^C	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	na	2.9E-04	--	--	na	2.9E-04	--	--	na	2.9E-04
Hexachlorobutadiene ^C	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	na	1.8E+01	--	--	na	1.8E+01	--	--	na	1.8E+01
Hexachlorocyclohexane	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-03	--	--	na	4.9E-03	--	--	na	4.9E-03
Alpha-BHC ^C	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	na	1.7E-02	--	--	na	1.7E-02	--	--	na	1.7E-02
Hexachlorocyclohexane Beta-BHC ^C	0	--	--	na	1.8E+00	2.4E+00	--	na	1.8E+00	2.4E-01	--	na	1.8E-01	6.0E-01	--	na	1.8E-01	6.0E-01	--	na	1.8E-01
Hexachlorocyclohexane Gamma-BHC ^C (Lindane)	0	--	--	na	1.1E+03	--	--	na	5.6E+04	--	--	na	1.1E+02	--	--	na	5.6E+03	--	--	na	5.6E+03
Hexachlorocyclopentadiene	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	na	3.3E+00	--	--	na	3.3E+00	--	--	na	3.3E+00
Hexachloroethane ^C	0	--	2.0E+00	na	--	--	8.2E+00	na	--	--	5.0E-01	na	--	--	2.0E+00	na	--	--	2.0E+00	na	--
Hydrogen Sulfide	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-02
Indeno (1,2,3-cd) pyrene ^C	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Iron	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	na	9.6E+02
Isophorone ^C	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Kapone	0	4.9E+01	5.6E+00	na	--	1.3E+02	2.3E+01	na	--	1.2E+01	1.4E+00	na	--	3.1E+01	5.7E+00	na	--	3.1E+01	5.7E+00	na	--
Lead	0	--	1.0E-01	na	--	--	4.1E-01	na	--	--	2.5E-02	na	--	--	1.0E-01	na	--	--	1.0E-01	na	--
Malathion	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	3.6E+00	3.1E+00	--	--	3.5E-01	1.9E-01	--	--	8.9E-01	7.9E-01	--	--	8.9E-01	7.9E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	7.7E+04	--	--	na	1.5E+02	--	--	na	7.7E+03	--	--	na	7.7E+03
Methylene Chloride ^C	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	na	5.9E+02	--	--	na	5.9E+02	--	--	na	5.9E+02
Methoxychlor	0	--	3.0E-02	na	--	--	1.2E-01	na	--	--	7.5E-03	na	--	--	3.1E-02	na	--	--	3.1E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	2.6E+02	4.6E+01	na	2.3E+05	2.5E+01	2.8E+00	na	4.6E+02	6.4E+01	1.2E+01	na	2.3E+04	6.4E+01	1.2E+01	na	2.3E+04
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	3.5E+04	--	--	na	6.9E+01	--	--	na	3.5E+03	--	--	na	3.5E+03
N-Nitrosodimethylamine ^C	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	na	3.0E+00	--	--	na	3.0E+00	--	--	na	3.0E+00
N-Nitrosodiphenylamine ^C	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	na	6.0E+00	--	--	na	6.0E+00	--	--	na	6.0E+00
N-Nitrosodi-n-propylamine ^C	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	na	5.1E-01	--	--	na	5.1E-01	--	--	na	5.1E-01
Nonylphenol	0	2.8E+01	6.6E+00	--	--	7.1E+01	2.7E+01	na	--	7.0E+00	1.7E+00	--	--	1.8E+01	6.7E+00	--	--	1.8E+01	6.7E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	1.7E-01	5.3E-02	na	--	1.6E-02	3.3E-03	na	--	4.1E-02	1.3E-02	na	--	4.1E-02	1.3E-02	na	--
PCB Total ^C	0	--	1.4E-02	na	6.4E-04	--	5.7E-02	na	6.4E-04	--	3.5E-03	na	6.4E-05	--	1.4E-02	na	6.4E-05	--	1.4E-02	na	6.4E-05
Pentachlorophenol ^C	0	7.1E+00	5.8E+00	na	3.0E+01	1.8E+01	2.4E+01	na	3.0E+01	1.8E+00	1.5E+00	na	3.0E+00	4.5E+00	6.0E+00	na	3.0E+00	4.5E+00	6.0E+00	na	3.0E+00
Phenol	0	--	--	na	8.6E+05	--	--	na	4.4E+07	--	--	na	8.6E+04	--	--	na	4.4E+06	--	--	na	4.4E+06
Pyrene	0	--	--	na	4.0E+03	--	--	na	2.0E+05	--	--	na	4.0E+02	--	--	na	2.0E+04	--	--	na	2.0E+04
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	2.0E+02	--	--	na	4.0E-01	--	--	na	2.0E+01	--	--	na	2.0E+01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	5.1E+01	2.0E+01	na	2.1E+05	5.0E+00	1.3E+00	na	4.2E+02	1.3E+01	5.1E+00	na	2.1E+04	1.3E+01	5.1E+00	na	2.1E+04
Silver	0	1.0E+00	--	na	--	2.7E+00	--	na	--	2.6E-01	--	na	--	6.7E-01	--	na	--	6.7E-01	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,1,2,2-Tetrachloroethane ^C	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	na	4.0E+00
Tetrachloroethylene ^C	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	na	3.3E+00	--	--	na	3.3E+00	--	--	na	3.3E+00
Thallium	0	--	--	na	4.7E-01	--	--	na	2.4E+01	--	--	na	4.7E-02	--	--	na	2.4E+00	--	--	na	2.4E+00
Toluene	0	--	--	na	6.0E+03	--	--	na	3.1E+05	--	--	na	6.0E+02	--	--	na	3.1E+04	--	--	na	3.1E+04
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Toxaphene ^C	0	7.3E-01	2.0E-04	na	2.8E-03	1.9E+00	8.2E-04	na	2.8E-03	1.8E-01	5.0E-05	na	2.8E-04	4.6E-01	2.0E-04	na	2.8E-04	4.6E-01	2.0E-04	na	2.8E-04
Tributyltin	0	4.6E-01	7.2E-02	na	--	1.2E+00	2.9E-01	na	--	1.2E-01	1.8E-02	na	--	2.9E-01	7.3E-02	na	--	2.9E-01	7.3E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	3.6E+03	--	--	na	7.0E+00	--	--	na	3.6E+02	--	--	na	3.6E+02
1,1,2-Trichloroethane ^C	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	na	1.6E+01
Trichloroethylene ^C	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	na	3.0E+01
2,4,6-Trichlorophenol ^C	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	na	2.4E+00	--	--	na	2.4E+00	--	--	na	2.4E+00
2-(2,4,5-Trichlorophenoxy)propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Vinyl Chloride ^C	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	1.7E+02	2.7E+02	na	1.3E+06	1.6E+01	1.6E+01	na	2.6E+03	4.1E+01	6.7E+01	na	1.3E+05	4.1E+01	6.7E+01	na	1.3E+05

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	3.3E+03
Arsenic	8.6E+01
Barium	na
Cadmium	4.0E-01
Chromium III	2.6E+01
Chromium VI	4.1E+00
Copper	1.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	3.6E-01
Nickel	6.9E+00
Selenium	3.1E+00
Silver	2.7E-01
Zinc	1.7E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Smith-Midland--Combined Flows of 001 and 002

Permit No.: VA0084298

Receiving Stream: Licking Run

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows			Mixing Information			Effluent Information		
Mean Hardness (as CaCO ₃) =	50 mg/L		1Q10 (Annual) =	0.0023 MGD		Annual - 1Q10 Mix =	100 %		Mean Hardness (as CaCO ₃) =	50 mg/L	
90% Temperature (Annual) =	23 deg C		7Q10 (Annual) =	0.0046 MGD		- 7Q10 Mix =	100 %		90% Temp (Annual) =	deg C	
90% Temperature (Wet season) =	deg C		30Q10 (Annual) =	0.0266 MGD		- 30Q10 Mix =	100 %		90% Temp (Wet season) =	deg C	
90% Maximum pH =	7.8 SU		1Q10 (Wet season) =	0.4391 MGD		Wet Season - 1Q10 Mix =	100 %		90% Maximum pH =	7.9 SU	
10% Maximum pH =	7 SU		30Q10 (Wet season) =	1.0054 MGD		- 30Q10 Mix =	100 %		10% Maximum pH =	6.6 SU	
Tier Designation (1 or 2) =	2		30Q5 =	0.0751 MGD					Discharge Flow =	0.0036 MGD	
Public Water Supply (PWS) Y/N? =	n		Harmonic Mean =	MGD							
Trout Present Y/N? =	n										
Early Life Stages Present Y/N? =	y										

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Acenaphthene	0	--	--	na	9.9E+02	--	--	na	2.2E+04	--	--	--	na	2.2E+03	--	na
Acrolein	0	--	--	na	9.3E+00	--	--	na	2.0E+02	--	--	--	na	2.0E+01	--	na
Acrylonitrile ^c	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	na	2.5E+01	--	na
Aldrin ^c	0	3.0E+00	--	na	5.0E-04	4.9E+00	--	na	5.0E-04	7.5E-01	--	--	na	1.2E+00	--	na
Ammonia-N (mg/l)	0	1.09E+01	2.17E+00	na	--	1.8E+01	1.8E+01	na	--	2.73E+00	5.42E-01	na	--	4.5E+00	4.5E+00	na
Ammonia-N (mg/l) (High Flow)	0	1.21E+01	3.18E+00	na	--	1.5E+03	8.9E+02	na	--	3.03E+00	7.95E-01	na	--	3.7E+02	2.2E+02	na
Anthracene	0	--	--	na	4.0E+04	--	--	na	8.7E+05	--	--	--	na	8.7E+04	--	na
Antimony	0	--	--	na	6.4E+02	--	--	na	1.4E+04	--	--	--	na	1.4E+03	--	na
Arsenic	0	3.4E+02	1.5E+02	na	--	5.6E+02	3.4E+02	na	--	8.5E+01	3.8E+01	na	--	1.4E+02	8.6E+01	na
Barium	0	--	--	na	--	--	--	na	--	--	--	--	na	--	--	na
Benzene ^c	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	na	5.1E+01	--	na
Benzidine ^c	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	na	2.0E-04	--	na
Benzo (a) anthracene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	na	1.8E-02	--	na
Benzo (b) fluoranthene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	na	1.8E-02	--	na
Benzo (k) fluoranthene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	na	1.8E-02	--	na
Benzo (a) pyrene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	na	1.8E-02	--	na
Bis(2-Chloroethyl) Ether ^c	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	na	5.3E-01	--	na
Bis(2-Chloroisopropyl) Ether ^c	0	--	--	na	6.5E-04	--	--	na	1.4E+06	--	--	--	na	1.4E+05	--	na
Bis(2-Ethylhexyl) Phthalate ^c	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	na	2.2E+00	--	na
Bromofom ^c	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	na	1.4E+02	--	na
Butylbenzophthalate	0	--	--	na	1.9E+03	--	--	na	4.2E+04	--	--	--	na	4.2E+03	--	na
Cadmium	0	1.8E+00	6.6E-01	na	--	2.9E+00	1.5E+00	na	--	4.5E-01	1.6E-01	na	--	7.4E-01	3.8E-01	na
Carbon Tetrachloride ^c	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	na	1.6E+00	--	na
Chlordane ^c	0	2.4E+00	4.3E-03	na	8.1E-03	3.9E+00	9.8E-03	na	8.1E-03	6.0E-01	1.1E-03	na	8.1E-04	9.9E-01	2.5E-03	na
Chloride	0	8.6E+05	2.3E+05	na	--	1.4E+06	5.3E+05	na	--	2.2E+05	5.8E+04	na	--	3.5E+05	1.3E+05	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
TRC	0	1.9E+01	1.1E+01	na	--	3.1E+01	2.5E+01	na	--	4.8E+00	2.8E+00	na	--	7.8E+00	6.3E+00	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	3.5E+04	--	--	na	1.6E+02	--	--	na	3.5E+03

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane ^c	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	na	1.3E+01	--	--	na	1.3E+01	--	--	na	1.3E+01
Chloroform	0	--	--	na	1.1E+04	--	--	na	2.4E+05	--	--	na	1.1E+03	--	--	na	2.4E+04	--	--	na	2.4E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	3.5E+04	--	--	na	1.6E+02	--	--	na	3.5E+03	--	--	na	3.5E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	3.3E+03	--	--	na	1.5E+01	--	--	na	3.3E+02	--	--	na	3.3E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	1.4E-01	9.4E-02	na	--	2.1E-02	1.0E-02	na	--	3.4E-02	2.3E-02	na	--	3.4E-02	2.3E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	5.3E+02	9.6E+01	na	--	8.1E+01	1.1E+01	na	--	1.3E+02	2.4E+01	na	--	1.3E+02	2.4E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	2.6E+01	2.5E+01	na	--	4.0E+00	2.8E+00	na	--	6.6E+00	6.3E+00	na	--	6.6E+00	6.3E+00	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	1.0E+01	--	--	--	2.2E+02	--	--	--	na	--
Chrysene ^c	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-03	--	--	na	1.8E-03	--	--	na	1.8E-03
Copper	0	7.0E+00	5.0E+00	na	--	1.1E+01	1.1E+01	na	--	1.7E+00	1.2E+00	na	--	2.9E+00	2.8E+00	na	--	2.9E+00	2.8E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	3.6E+01	1.2E+01	na	3.5E+05	5.5E+00	1.3E+00	na	1.6E+03	9.0E+00	3.0E+00	na	3.5E+04	9.0E+00	3.0E+00	na	3.5E+04
DDD ^c	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	na	3.1E-04	--	--	na	3.1E-04	--	--	na	3.1E-04
DDE ^c	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	na	2.2E-04	--	--	na	2.2E-04	--	--	na	2.2E-04
DDT ^c	0	1.1E+00	1.0E-03	na	2.2E-03	1.8E+00	2.3E-03	na	2.2E-03	2.8E-01	2.5E-04	na	2.2E-04	4.5E-01	5.7E-04	na	2.2E-04	4.5E-01	5.7E-04	na	2.2E-04
Demeton	0	--	1.0E-01	na	--	--	2.3E-01	na	--	--	2.5E-02	na	--	--	5.7E-02	na	--	--	5.7E-02	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	2.8E-01	3.9E-01	na	--	4.3E-02	4.3E-02	na	--	7.0E-02	9.7E-02	na	--	7.0E-02	9.7E-02	na	--
Dibenz(a,h)anthracene ^c	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-02
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	2.8E+04	--	--	na	1.3E+02	--	--	na	2.8E+03	--	--	na	2.8E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	2.1E+04	--	--	na	9.6E+01	--	--	na	2.1E+03	--	--	na	2.1E+03
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	4.2E+03	--	--	na	1.9E+01	--	--	na	4.2E+02	--	--	na	4.2E+02
3,3-Dichlorobenzidine ^c	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	na	2.8E-02	--	--	na	2.8E-02	--	--	na	2.8E-02
Dichlorobromomethane ^c	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	na	1.7E+01	--	--	na	1.7E+01	--	--	na	1.7E+01
1,2-Dichloroethane ^c	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	na	3.7E+01	--	--	na	3.7E+01	--	--	na	3.7E+01
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	1.6E+05	--	--	na	7.1E+02	--	--	na	1.6E+04	--	--	na	1.6E+04
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	2.2E+05	--	--	na	1.0E+03	--	--	na	2.2E+04	--	--	na	2.2E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	6.3E+03	--	--	na	2.9E+01	--	--	na	6.3E+02	--	--	na	6.3E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,2-Dichloropropane ^c	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	na	1.5E+01
1,3-Dichloropropene ^c	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	na	2.1E+01	--	--	na	2.1E+01	--	--	na	2.1E+01
Dieldrin ^c	0	2.4E-01	5.6E-02	na	5.4E-04	3.9E-01	1.3E-01	na	5.4E-04	6.0E-02	1.4E-02	na	5.4E-05	9.9E-02	3.2E-02	na	5.4E-05	9.9E-02	3.2E-02	na	5.4E-05
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	9.6E+05	--	--	na	4.4E+03	--	--	na	9.6E+04	--	--	na	9.6E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	1.9E+04	--	--	na	8.5E+01	--	--	na	1.9E+03	--	--	na	1.9E+03
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	2.4E+07	--	--	na	1.1E+05	--	--	na	2.4E+06	--	--	na	2.4E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	9.8E+04	--	--	na	4.5E+02	--	--	na	9.8E+03	--	--	na	9.8E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	1.2E+05	--	--	na	5.3E+02	--	--	na	1.2E+04	--	--	na	1.2E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	6.1E+03	--	--	na	2.8E+01	--	--	na	6.1E+02	--	--	na	6.1E+02
2,4-Dinitrotoluene ^c	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	na	3.4E+00	--	--	na	3.4E+00	--	--	na	3.4E+00
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	1.1E-06	--	--	na	5.1E-09	--	--	na	1.1E-07	--	--	na	1.1E-07
1,2-Diphenylhydrazine ^c	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	na	2.0E-01	--	--	na	2.0E-01	--	--	na	2.0E-01
Alpha-Endosulfan	0	2.2E-01	5.9E-02	na	8.9E+01	3.6E-01	1.3E-01	na	1.9E+03	5.5E-02	1.4E-02	na	8.9E+00	9.0E-02	3.2E-02	na	1.9E+02	9.0E-02	3.2E-02	na	1.9E+02
Beta-Endosulfan	0	2.2E-01	5.9E-02	na	8.9E+01	3.6E-01	1.3E-01	na	1.9E+03	5.5E-02	1.4E-02	na	8.9E+00	9.0E-02	3.2E-02	na	1.9E+02	9.0E-02	3.2E-02	na	1.9E+02
Alpha + Beta Endosulfan	0	2.2E-01	5.9E-02	--	--	3.6E-01	1.3E-01	--	--	5.5E-02	1.4E-02	--	--	9.0E-02	3.2E-02	--	--	9.0E-02	3.2E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	1.9E+03	--	--	na	8.9E+00	--	--	na	1.9E+02	--	--	na	1.9E+02
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	1.4E-01	8.2E-02	na	1.3E+00	2.2E-02	9.0E-03	na	6.0E-03	3.5E-02	2.1E-02	na	1.3E-01	3.5E-02	2.1E-02	na	1.3E-01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	6.6E+00	--	--	na	3.0E-02	--	--	na
													6.6E-01			6.6E-01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	4.6E+04	--	--	na	2.1E+02	--	--	na	4.6E+03	--	--	na	4.6E+03
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	3.1E+03	--	--	na	1.4E+01	--	--	na	3.1E+02	--	--	na	3.1E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	1.2E+05	--	--	na	5.3E+02	--	--	na	1.2E+04	--	--	na	1.2E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	2.3E-02	na	--	--	2.5E-03	na	--	--	5.7E-03	na	--	--	5.7E-03	na	--
Heptachlor ^C	0	5.2E-01	3.8E-03	na	7.9E+04	8.5E-01	8.7E-03	na	7.9E+04	1.3E-01	9.5E-04	na	7.9E+05	2.1E-01	2.2E-03	na	7.9E+05	2.1E-01	2.2E-03	na	7.9E+05
Heptachlor Epoxide ^C	0	5.2E-01	3.8E-03	na	3.9E+04	8.5E-01	8.7E-03	na	3.9E+04	1.3E-01	9.5E-04	na	3.9E+05	2.1E-01	2.2E-03	na	3.9E+05	2.1E-01	2.2E-03	na	3.9E+05
Hexachlorobenzene ^C	0	--	--	na	2.9E+03	--	--	na	2.9E+03	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	na	2.9E+04
Hexachlorobutadiene ^C	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	na	1.8E+01	--	--	na	1.8E+01	--	--	na	1.8E+01
Hexachlorocyclohexane	0	--	--	na	4.9E+02	--	--	na	4.9E+02	--	--	na	4.9E+03	--	--	na	4.9E+03	--	--	na	4.9E+03
Alpha-BHC ^C	0	--	--	na	1.7E+01	--	--	na	1.7E+01	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	na	1.7E+02
Hexachlorocyclohexane	0	--	--	na	1.7E+01	--	--	na	1.7E+01	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	na	1.7E+02
Beta-BHC ^C	0	--	--	na	1.7E+01	--	--	na	1.7E+01	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	na	1.7E+02
Hexachlorocyclohexane	0	9.5E-01	na	na	1.8E+00	1.6E+00	--	na	1.8E+00	2.4E-01	--	na	1.8E-01	3.9E-01	--	na	1.8E-01	3.9E-01	--	na	1.8E-01
Gamma-BHC ^C (Lindane)	0	--	--	na	1.1E+03	--	--	na	2.4E+04	--	--	na	1.1E+02	--	--	na	2.4E+03	--	--	na	2.4E+03
Hexachlorocyclopentadiene	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	na	3.3E+00	--	--	na	3.3E+00	--	--	na	3.3E+00
Hexachloroethane ^C	0	--	2.0E+00	na	--	--	4.6E+00	na	--	--	5.0E-01	na	--	--	1.1E+00	na	--	--	1.1E+00	na	--
Hydrogen Sulfide	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	na	1.8E-02
Indeno (1,2,3-cd) pyrene ^C	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Iron	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	na	9.6E+02
Isophorone ^C	0	--	--	na	0.0E+00	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Kepone	0	4.9E+01	5.6E+00	na	--	8.1E+01	1.3E+01	na	--	1.2E+01	1.4E+00	na	--	2.0E+01	3.2E+00	na	--	2.0E+01	3.2E+00	na	--
Lead	0	--	1.0E-01	na	--	--	2.3E-01	na	--	--	2.5E-02	na	--	--	5.7E-02	na	--	--	5.7E-02	na	--
Malathion	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	2.3E+00	1.8E+00	--	--	3.5E-01	1.9E-01	--	--	5.7E-01	4.4E-01	--	--	5.7E-01	4.4E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	3.3E+04	--	--	na	1.5E+02	--	--	na	3.3E+03	--	--	na	3.3E+03
Methylene Chloride ^C	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	na	5.9E+02	--	--	na	5.9E+02	--	--	na	5.9E+02
Methoxychlor	0	--	3.0E-02	na	--	--	6.9E-02	na	--	--	7.5E-03	na	--	--	1.7E-02	na	--	--	1.7E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.7E+02	2.6E+01	na	1.0E+05	2.5E+01	2.8E+00	na	4.6E+02	4.2E+01	6.4E+00	na	1.0E+04	4.2E+01	6.4E+00	na	1.0E+04
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	1.5E+04	--	--	na	6.9E+01	--	--	na	1.5E+03	--	--	na	1.5E+03
N-Nitrosodimethylamine ^C	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	na	3.0E+00	--	--	na	3.0E+00	--	--	na	3.0E+00
N-Nitrosodiphenylamine ^C	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	na	6.0E+00	--	--	na	6.0E+00	--	--	na	6.0E+00
N-Nitrosodi-n-propylamine ^C	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	na	5.1E-01	--	--	na	5.1E-01	--	--	na	5.1E-01
Nonylphenol	0	2.8E+01	6.6E+00	--	--	4.6E+01	1.5E+01	na	--	7.0E+00	1.7E+00	--	--	1.1E+01	3.8E+00	--	--	1.1E+01	3.8E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	1.1E-01	3.0E-02	na	--	1.6E-02	3.3E-03	na	--	2.7E-02	7.4E-03	na	--	2.7E-02	7.4E-03	na	--
PCB Total ^C	0	--	1.4E-02	na	6.4E-04	--	3.2E-02	na	6.4E-04	--	3.5E-03	na	6.4E-05	--	8.0E-03	na	6.4E-05	--	8.0E-03	na	6.4E-05
Pentachlorophenol ^C	0	6.6E+00	5.4E+00	na	3.0E+01	1.1E+01	1.2E+01	na	3.0E+01	1.6E+00	1.3E+00	na	3.0E+00	2.7E+00	3.1E+00	na	3.0E+00	2.7E+00	3.1E+00	na	3.0E+00
Phenol	0	--	--	na	8.6E+05	--	--	na	1.9E+07	--	--	na	8.6E+04	--	--	na	1.9E+06	--	--	na	1.9E+06
Pyrene	0	--	--	na	4.0E+03	--	--	na	8.7E+04	--	--	na	4.0E+02	--	--	na	8.7E+03	--	--	na	8.7E+03
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Beta and Proton Activity (mem/yr)	0	--	--	na	4.0E+00	--	--	na	8.7E+01	--	--	na	4.0E-01	--	--	na	8.7E+00	--	--	na	8.7E+00

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	3.3E+01	1.1E+01	na	9.2E+04	5.0E+00	1.3E+00	na	4.2E+02	8.2E+00	2.9E+00	na	9.2E+03	8.2E+00	2.9E+00	na	9.2E+03
Silver	0	1.0E+00	--	na	--	1.7E+00	--	na	--	2.6E-01	--	na	--	4.3E-01	--	na	--	4.3E-01	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,1,2,2-Tetrachloroethane ^C	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	na	4.0E+00
Trichloroethylene ^C	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	na	3.3E+00	--	--	na	3.3E+00	--	--	na	3.3E+00
Thallium	0	--	--	na	4.7E-01	--	--	na	1.0E+01	--	--	na	4.7E-02	--	--	na	1.0E+00	--	--	na	1.0E+00
Toluene	0	--	--	na	6.0E+03	--	--	na	1.3E+05	--	--	na	6.0E+02	--	--	na	1.3E+04	--	--	na	1.3E+04
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Toxaphene ^C	0	7.3E-01	2.0E-04	na	2.8E-03	1.2E+00	4.6E-04	na	2.8E-03	1.8E-01	5.0E-05	na	2.8E-04	3.0E-01	1.1E-04	na	2.8E-04	3.0E-01	1.1E-04	na	2.8E-04
Tributyltin	0	4.8E-01	7.2E-02	na	--	7.6E-01	1.6E-01	na	--	1.2E-01	1.8E-02	na	--	1.9E-01	4.1E-02	na	--	1.9E-01	4.1E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	1.5E+03	--	--	na	7.0E+00	--	--	na	1.5E+02	--	--	na	1.5E+02
1,1,2-Trichloroethane ^C	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	na	1.6E+01
Trichloroethylene ^C	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	na	3.0E+01
2,4,6-Trichlorophenol ^C	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	na	2.4E+00	--	--	na	2.4E+00	--	--	na	2.4E+00
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Vinyl Chloride ^C	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	na	2.4E+00	--	--	na	2.4E+00	--	--	na	2.4E+00
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	1.1E+02	1.5E+02	na	5.7E+05	1.6E+01	1.6E+01	na	2.6E+03	2.7E+01	3.7E+01	na	5.7E+04	2.7E+01	3.7E+01	na	5.7E+04

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
= (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	1.4E+03
Arsenic	5.1E+01
Barium	na
Cadmium	2.3E-01
Chromium III	1.4E+01
Chromium VI	2.6E+00
Copper	1.1E+00
Iron	na
Lead	1.9E+00
Manganese	na
Mercury	2.3E-01
Nickel	3.9E+00
Selenium	1.7E+00
Silver	1.7E-01
Zinc	1.1E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Mixing Zone Predictions for Smith-Midland (Outfall 001)

Effluent Flow = 0.015 MGD
 Stream 7Q10 = 0.0001 MGD
 Stream 30Q10 = 0.035 MGD
 Stream 1Q10 = 0.0001 MGD
 Stream slope = 0.04 ft/ft
 Stream width = 3 ft
 Bottom scale = 3
 Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .0301 ft
 Length = 157.09 ft
 Velocity = .2588 ft/sec
 Residence Time = .007 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = .0623 ft
 Length = 84.62 ft
 Velocity = .4143 ft/sec
 Residence Time = .0024 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .0301 ft
 Length = 157.09 ft
 Velocity = .2588 ft/sec
 Residence Time = .1686 hours

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.

2/10/2011 4:09:26 PM

Facility = Smith-Midland -- Outfall 001

Chemical = Ammonia

Chronic averaging period = 30

WLAa = 29

WLAc = 37

Q.L. = .2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

2/11/2011 3:51:35 PM

Facility = Smith Midland -- Combined Outfalls

Chemical = TRC

Chronic averaging period = 4

WLAa = 31

WLAc = 25

Q.L. = .2

samples/mo. = 30

samples/wk. = 8

Summary of Statistics:

observations = 1

Expected Value = 100

Variance = 3600

C.V. = 0.6

97th percentile daily values = 243.341

97th percentile 4 day average = 166.379

97th percentile 30 day average = 120.605

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 31

Average Weekly limit = 18.4916576629689

Average Monthly Limit = 15.364256079898

The data are:

100

DATA FILE SUMMARY

THE NAME OF THE DATA FILE IS: MIDLAND.MOD

THE STREAM NAME IS: Licking Run
THE RIVER BASIN IS: Potomac
THE SECTION NUMBER IS: 7a
THE CLASSIFICATION IS: III

STANDARDS VIOLATED (Y/N) = N
STANDARDS APPROPRIATE (Y/N) = Y

DISCHARGE WITHIN 3 MILES (Y/N) = N

THE DISCHARGE BEING MODELED IS: Smith Midland

PROPOSED LIMITS ARE:
FLOW = .0015 MGD
BOD5 = 25 MG/L
TKN = 20 MG/L
D.O. = 6 MG/L

THE NUMBER OF SEGMENTS TO BE MODELED = 1

7Q10 WILL BE CALCULATED BY: FLOW COMPARISON
THE GAUGE NAME IS: Cedar Run - Catlett
GAUGE DRAINAGE AREA = 93.4 SQ.MI.
OBSERVED FLOW AT GAUGE = .197 MGD
GAUGE 7Q10 = .197 MGD
OBSERVED FLOW AT DISCHARGE = .197 MGD

STREAM A DRY DITCH AT DISCHARGE (Y/N) = N
ANTIDEGRADATION APPLIES (Y/N) = Y

ALLOCATION DESIGN TEMPERATURE = 25 °C

SEGMENT INFORMATION

SEGMENT # 1

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = 3 MI (3000 IS 3000)

SEGMENT WIDTH = 3 FT
SEGMENT DEPTH = .3 FT
SEGMENT VELOCITY = .3 FT/SEC

DRAINAGE AREA AT SEGMENT START = 16.7 SQ.MI.
DRAINAGE AREA AT SEGMENT END = 18 SQ.MI.

ELEVATION AT UPSTREAM END = 255 FT
ELEVATION AT DOWNSTREAM END = 235 FT

THE CROSS SECTION IS: WIDE SHALLOW ARC
THE CHANNEL IS: MOSTLY STRAIGHT

POOLS AND RIFFLES (Y/N) = N

THE BOTTOM TYPE = SILT
SLUDGE DEPOSITS = NONE
AQUATIC PLANTS = NONE
ALGAE OBSERVED = NONE
WATER COLORED GREEN (Y/N) = N

REGIONAL MODELING SYSTEM
07-31-1990 10:53:51

Ver 3.0 (QWRM - 4/90)

REGIONAL MODELING SYSTEM VERSION 3.

MODEL SIMULATION FOR THE Smith Midland DISCHARGE

TO Licking Run

COMMENT: Based on min instrm flow 0.305cfs at upstrm dam

THE SIMULATION STARTS AT THE Smith Midland DISCHARGE

***** PROPOSED PERMIT LIMITS *****

FLOW = .0015 MGD cBOD5 = 25 Mg/L TKN = 20 Mg/L D.O. = 6 Mg/L

**** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 1.456 Mg/L ****

THE SECTION BEING MODELED IS 1 SEGMENT LONG
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

***** BACKGROUND CONDITIONS *****

THE 7Q10 STREAM FLOW AT THE DISCHARGE IS 0.19700 MGD
THE DISSOLVED OXYGEN OF THE STREAM IS 7.437 Mg/L
THE BACKGROUND cBODu OF THE STREAM IS 5 Mg/L
THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

***** MODEL PARAMETERS *****

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SAT Mg/L
1	3.00	0.319	4.000	1.000	0.350	0.000	245.00	25.00	8.26

(The K Rates shown are at 20°C ... the model corrects them for temperature.)

RESPONSE FOR SEGMENT 1

TOTAL STREAMFLOW = 0.1985 MGD
(Including Discharge)

TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	CBODu (Mg/L)	nBODu (Mg/L)
-----	-----	-----	-----
0.000	7.426	5.435	0.556
0.100	7.366	5.305	0.551
0.200	7.314	5.179	0.545
0.300	7.270	5.056	0.540
0.400	7.231	5.000	0.535
0.500	7.312	5.000	0.530
0.600	7.385	5.000	0.524
0.700	7.437	5.000	0.519
0.800	7.437	5.000	0.514
0.900	7.437	5.000	0.509
1.000	7.437	5.000	0.504
1.100	7.437	5.000	0.499
1.200	7.437	5.000	0.494
1.300	7.437	5.000	0.489
1.400	7.437	5.000	0.485
1.500	7.437	5.000	0.480
1.600	7.437	5.000	0.475
1.700	7.437	5.000	0.470
1.800	7.437	5.000	0.466
1.900	7.437	5.000	0.461
2.000	7.437	5.000	0.457
2.100	7.437	5.000	0.452
2.200	7.437	5.000	0.448
2.300	7.437	5.000	0.444
2.400	7.437	5.000	0.439
2.500	7.437	5.000	0.435
2.600	7.437	5.000	0.431
2.700	7.437	5.000	0.426
2.800	7.437	5.000	0.422
2.900	7.437	5.000	0.418
3.000	7.437	5.000	0.414

REGIONAL MODELING SYSTEM
07-31-1990 10:59:17

Ver 3.0 (QWRM - 4/90)

DATA FILE = MIDLAND.MOD

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated municipal and industrial wastewater into a water body in Fauquier County, Virginia.

PUBLIC COMMENT PERIOD: March 31, 2011 to 5:00 p.m. on April 29, 2011

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Smith-Midland Corporation, P.O. Box 300, Midland, VA 22728, VA0084298

NAME AND ADDRESS OF FACILITY: Smith-Midland Corporation, 5119 Catlett Road, Midland, VA 22728

PROJECT DESCRIPTION: Smith-Midland Corporation has applied for a reissuance of a permit for the private Smith-Midland Corporation site in Fauquier County, Virginia. The applicant proposes to release treated sewage at a rate of 0.0015 Million Gallons per Day and industrial wastewater at a 30-day maximum rate of 0.0021 Million Gallons per Day into Licking Run in Fauquier County that is in the Upper Cedar Run/Licking Run Watershed. A watershed is the land area drained by a river and its incoming streams. The sludge will be disposed of by transfer to a large sewage treatment plant. Solids from the acid-washing process will be disposed of at an approved landfill. The permit will limit the following pollutants to amounts that protect water quality at the sewage treatment plant: pH, BOD, total suspended solids, dissolved oxygen, *E. coli*, and total residual chlorine. The permit will limit the following pollutants to amounts that protect water quality at the wastewater discharge from the acid-washing process: total suspended solids, COD, pH, total residual chlorine, dissolved oxygen, temperature, and total petroleum hydrocarbons.

DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Anna Westernik

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3837 E-mail: anna.westernik@deq.virginia.gov Fax: (703) 583-3821

Revised 2/2003

**State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Smith Midland
NPDES Permit Number:	VA0084298
Permit Writer Name:	Anna Westernnik
Date:	December 22, 2010

Major [] Minor [x] Industrial [x] Municipal [x]

I.A. Draft Permit Package Submittal Includes:

	Yes	No	N/A
1. Permit Application?	x		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	x		
3. Copy of Public Notice?	x		
4. Complete Fact Sheet?	x		
5. A Priority Pollutant Screening to determine parameters of concern?	x		
6. A Reasonable Potential analysis showing calculated WQBELs?	x		
7. Dissolved Oxygen calculations?			x
8. Whole Effluent Toxicity Test summary and analysis?			x
9. Permit Rating Sheet for new or modified industrial facilities?	x		

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		x	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit? ¹		x	
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	x		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		x	
5. Has there been any change in streamflow characteristics since the last permit was developed? ²		x	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		x	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	x		
8. Does the facility discharge to a 303(d) listed water?	x		
a. Has a TMDL been developed and approved by EPA for the impaired water?	x		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			x
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	x		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		x	
10. Does the permit authorize discharges of storm water? ¹		x	

¹Storm Water discharges identified under the Concrete General Permit.

² The 1Q10 and 7Q10 of the receiving stream have been determined to be zero.

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		x	
12. Are there any production-based, technology-based effluent limits in the permit?		x	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		x	
14. Are any WQBELs based on an interpretation of narrative criteria?		x	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		x	
16. Does the permit contain a compliance schedule for any limit or condition?		x	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?	x		
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	x		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		x	
20. Have previous permit, application, and fact sheet been examined?	x		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	x		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	x		

II.B. Effluent Limits – General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	x		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?	x		

II.C. Technology-Based Effluent Limits (POTWs)

	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	x		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	x		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			x
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	x		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	x		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		x	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			x

II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	x		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	x		
3. Does the fact sheet provide effluent characteristics for each outfall?	x		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	x		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	x		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	x		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	x		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?		x	
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	x		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	x		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	x		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	x		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	x		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	x		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		x	
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		x	
4. Does the permit require testing for Whole Effluent Toxicity?		x	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	x		
2. Does the permit include appropriate storm water program requirements? ¹		x	

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			x
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	x		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		x	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		x	
a. Does the permit require implementation of the “Nine Minimum Controls”?			x
b. Does the permit require development and implementation of a “Long Term Control Plan”?			x
c. Does the permit require monitoring and reporting for CSO events?			x
7. Does the permit include appropriate Pretreatment Program requirements?			x

II.G. Standard Conditions			Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?			x		
List of Standard Conditions – 40 CFR 122.41					
Duty to comply	Property rights	Reporting Requirements			
Duty to reapply	Duty to provide information	Planned change			
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance			
not a defense	Monitoring and records	Transfers			
Duty to mitigate	Signatory requirement	Monitoring reports			
Proper O & M	Bypass	Compliance schedules			
Permit actions	Upset	24-Hour reporting			
		Other non-compliance			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?			x		

¹Storm Water discharges identified under the Concrete General Permit.

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals

(To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	x		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	x		

II.B. Effluent Limits – General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	x		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?	x		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)

	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		x	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			x
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	x		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	x		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?	x		
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a “reasonable measure of ACTUAL production” for the facility (not design)?			x
5. Does the permit contain “tiered” limits that reflect projected increases in production or flow?		x	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	x		
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?	x		
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		x	

II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	x		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?		x	
3. Does the fact sheet provide effluent characteristics for each outfall?	x		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	x		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	x		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	x		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	x		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?		x	
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	x		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	x		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	x		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	x		
8. Does the fact sheet indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	x		

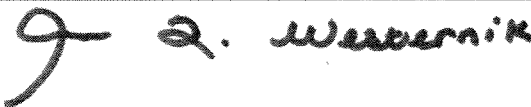
II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	x		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		x	
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State’s standard practices?		x	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		x	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			x
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			x

II.G. Standard Conditions		Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?		x		
List of Standard Conditions – 40 CFR 122.41				
Duty to comply	Property rights	Reporting Requirements		
Duty to reapply	Duty to provide information	Planned change		
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance		
not a defense	Monitoring and records	Transfers		
Duty to mitigate	Signatory requirement	Monitoring reports		
Proper O & M	Bypass	Compliance schedules		
Permit actions	Upset	24-Hour reporting		
		Other non-compliance		
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?		x		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Anna T. Westernik</u>
Title	<u>Environmental Specialist II</u>
Signature	<u></u>
Date	<u>December 22, 2010</u>